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The Good Old Days

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FEBRUARY 1973

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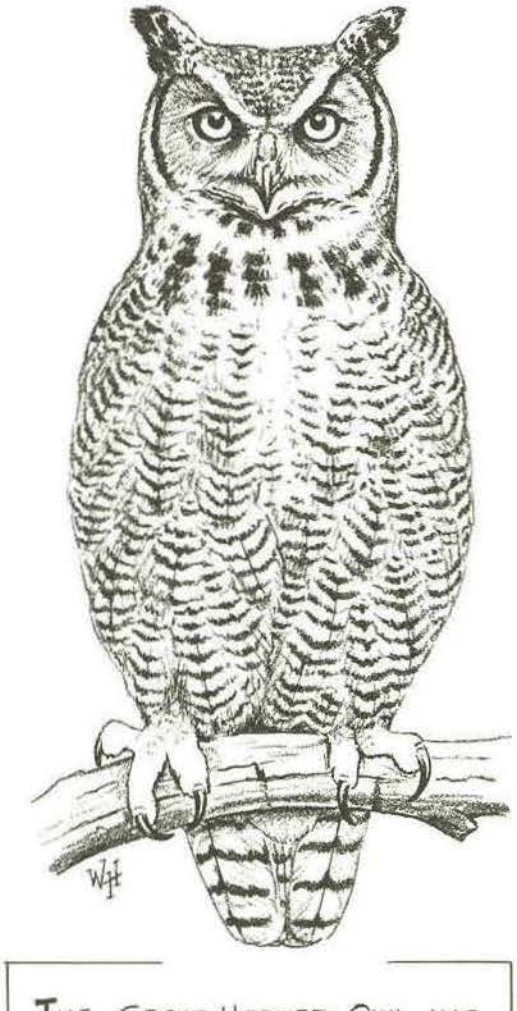

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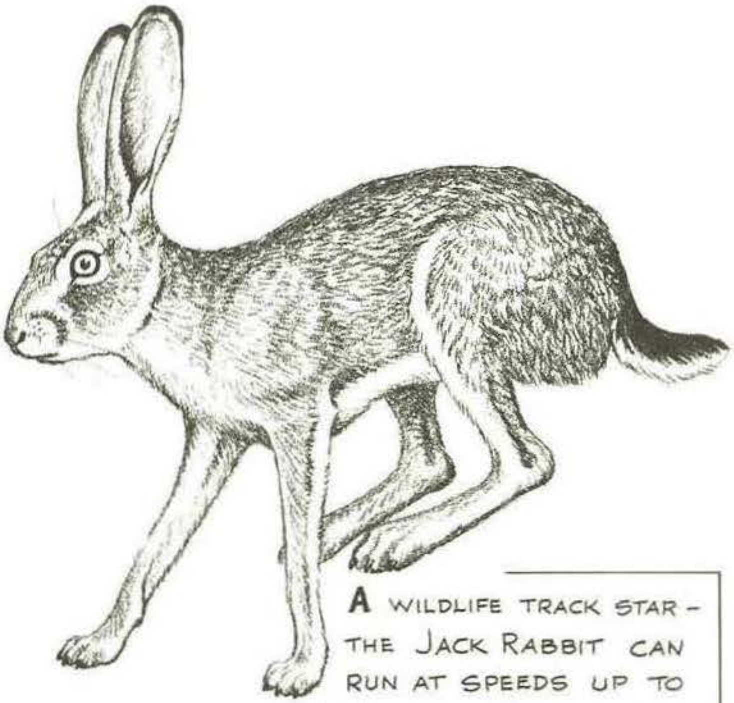
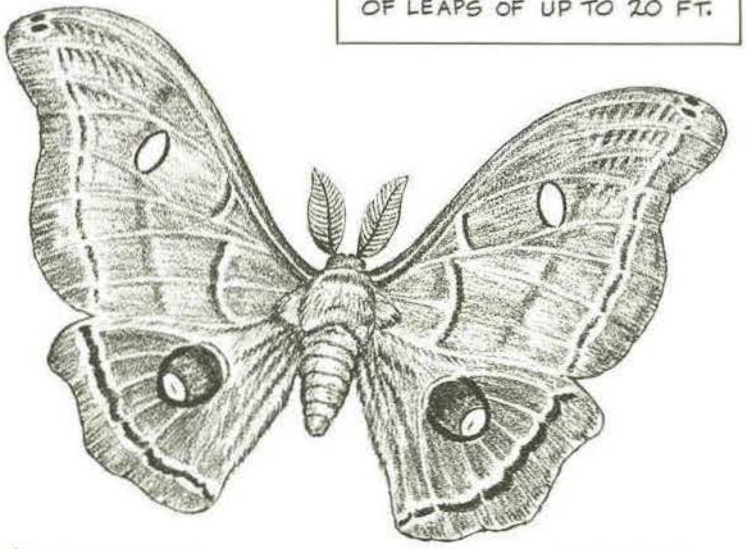


A WILDLIFE TRACK STAR – THE JACK RABBIT CAN RUN AT SPEEDS UP TO 45 MPH AND IS CAPABLE OF LEAPS OF UP TO 20 FT.



THE PLUMED ANTENNAE OF THE POLYPHEMUS MOTH IS USED TO FIND A MATE • THIS HIGH POWERED "SCENT PERCEPTIVE" ANTENNAE CAN LOCATE A FEMALE AS FAR AS 5 MILES AWAY

FLORIDA WILDLIFE MAGAZINE • FLORIDA GAME AND FRESH WATER FISH COMMISSION

Florida WILDLIFE

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The Cover

Tawny topside, yellow-white feet and belly fur, and long black-tipped tail—that spells weasel, Florida's smallest and rarest predatory mammal. See page 10.

Photo By William Greer

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National Wildlife Week

March 18-24, 1973

"DISCOVER WILDLIFE—It's Too Good To Miss." That's the theme of the 36th annual observance of National Wildlife Week, set for March 18–24, according to its sponsor, the National Wildlife Federation.

Plans are being readied by thousands of local and state groups across the country for participation in this year's program, which focuses on the simple, yet exciting, joys that can be found by Americans of all ages in the outdoor world.

The symbol for Wildlife Week, 1973, is a young wood duck shown emerging from its nest.

"All that newly-hatched duckling has to do to break out into the natural world is to take that first step out of the nest," said Thomas L. Kimball, executive vice president of the NWF, commenting on this year's poster symbol. "And it's nearly as easy for people to take that same step; to break out into nature and see what beauty it has to offer."

During Wildlife Week, Kimball urges that families "get out and enjoy our wild resources," adding that "the experience can open up an entirely new world."

"Too often," he says, "American families see wildlife and the rest of the natural world only through attractive magazine pictures. It's out there to be experienced right now, and it really is too good to miss!

"For example, imagine the view this young wood duck has from the edge of his nesting box above the pond. It's a fantastic panorama of a whole new world of wildlife; very different from the dark nesting cavity, with its feathers, broken eggshells, and other ducklings.

"This wildlife world is full of new sounds and shapes. A red-winged blackbird calls out from the tip of a cattail, while below the nest box a muskrat paddles along with a mouth full of marsh grass. He makes a tiny wake as he moves to the shore, where a deer and her fawn search for succulent water plants. A strange, measured sound, 'chug-o-rum, chug-o-rum,' fills the air as a bullfrog competes with the blackbird for the title of 'musician of the pond.'

"The young wood duck enters the outside world eagerly and easily. All it takes for him is a fluttering leap, a short fall, a splash, and he's there, swimming on his way across the pond, discovering water bugs, turtles, mosquitos, and water lilies.

"You too can discover a world full of wildlife. It's there in the vacant city lot, woodland, prairie, marsh, or at a back yard bird feeder. The way you enjoy the outdoors can be as varied as the wildlife you're seeking. Try exploring the mini-world of insects; or maybe you're interested in using a camera to capture the graceful flight and rich color of birds. Possibly you'll choose hiking or camping as your passport to wildlife discoveries. Maybe you'll want to test your outdoor skills against those of an elusive buck or a native bass or trout. If you like writing, you might want to try describing your feelings for things wild. Perhaps you are a talented artist, in which case you will probably enjoy sketching and painting outdoor subjects.

"There are many, many ways of enjoying and appreciating wildlife. How *you* enjoy it is up to you. But it's spring. What better time to be outdoors? Don't pass up the opportunity. Discover wildlife in 1973," urges Kimball. "Let it be a time for new discovery—perhaps rediscovery—of wildlife, not only during the one week but throughout the entire year. And while we are observing wildlife and learning more about it, we must also rededicate ourselves to maintaining a healthy environment, for a world that has natural places for wild creatures is a better world for all living things."

The National Wildlife Federation is a nonprofit, nongovernmental conservation organization whose overall aim is to work for solutions to the problems confronting man, wildlife, and the environment. It now has an affiliate in every state and several territories—with a total membership of some 3.5 million people.

From its beginning, in 1936, the Federation has provided leadership for all groups interested in the proper management of wildlife and natural resources. The organization was founded on the belief that we cannot separate the welfare of wildlife from that of other living things, since, through the science of ecology, we have learned that having a quality natural environment depends upon maintaining the natural interrelationship existing among all forms of life.

Indeed, man and wildlife share a common need for some of life's essentials, particularly clean water and clean air. Today, more people are aware that the presence of healthy fish and wildlife populations is evidence of a healthy environment for people too.

No matter how man's need to discover and know wildlife is explained, the reasons usually come back to Aldo Leopold's observation that there are some people who cannot live without wild things. It is largely these people who must accept a major share of the responsibility for insuring that no one will ever have to live in a world without a variety and abundance of wildlife.

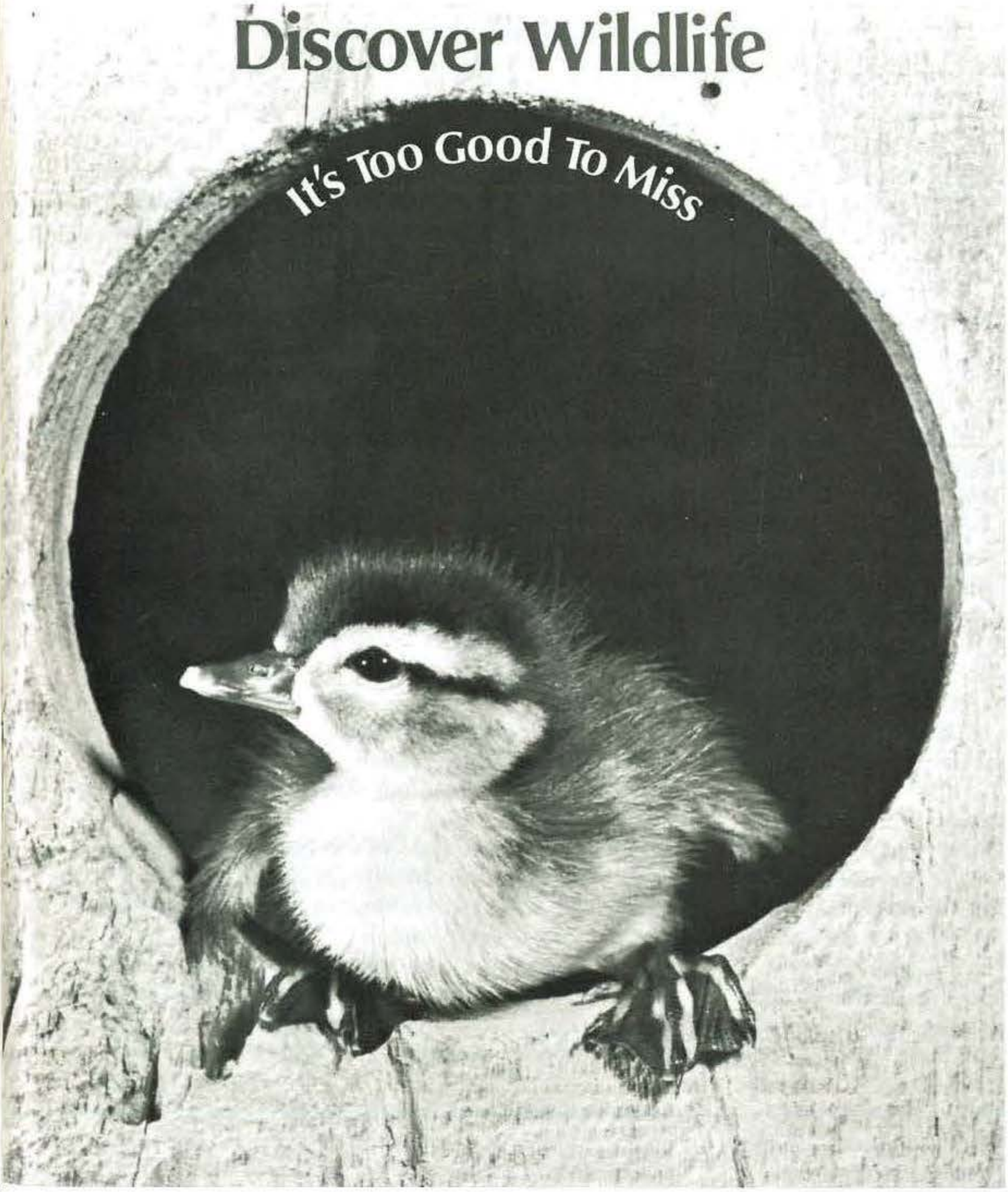
The Federation is an association of concerned people working together to maintain optimum variety and numbers of wildlife at the local, state, national, and worldwide levels. Its growing membership represents a large and diverse cross section of the American public—people who share the credo that men have an absolute responsibility to be wise stewards of the earth's bounteous resources.

Through programs such as National Wildlife Week, the Federation educates, disseminates information, and speaks out for the cause of resource conservation and environmental protection at all levels of debate and action.

For additional information about the National Wildlife Federation and its programs and publications, write Thomas L. Kimball, Executive Vice President, NWF, 1412 Sixteenth Street, N.W., Washington, D. C. 20036.

For information about club or individual membership in the Florida Wildlife Federation, an affiliate of NWF, write John C. Jones, Executive Director, 4080 North Haverhill Road, West Palm Beach, Florida 33407. ●

National Wildlife Federation Poster Photo By Jack Dermid



A young Wood Duck popping out of its nesting box is as much a part of Spring as the annual observance of National Wildlife Week. Soon he will grow to become one of our most spectacular waterfowl.

Fish and Fish Management

By **ROSS PARSONS**

IT'S NO IDLE BOAST: Florida fishing is something else.

Fishing tournament directors schedule national competitions in south Florida because the fishing is so good.

Angling-oriented tourists aim toward south Florida because the fishing is so good.

South Florida residents stay in south Florida to do their fishing because the fishing is so good.

And along come Game and Fresh Water Fish Commission fisheries biologists and decide they are going to make it even better.

A series of sampling and testing projects was recently begun on beautiful Blue Cypress Lake, in Indian River County, continued on down to lakes Ida and Osborne, in Palm Beach County, and will eventually be carried into a majority of the lakes in the Everglades Region of Florida.

The Blue Cypress Lake activities included rotenone samples within acre-wide block nets, electrofishing along shorelines to collect specific species, and the use of 135-yard-long trammel nets (which, during a night set, managed to temporarily collect a pair of small alligators).

Immediate results of the testing in Blue Cypress determined there was a high ratio of rough fish to game fish, the nongame species being mostly gizzard shad and garfish.

Lake Ida yielded an abundance of dead shad following the rotenone treatment, again indicating the fishing could be improved by changing the ratio of shad to bass and bream.

Lake Osborne, nestled in a county park, was the site of extensive commercial dredging up until about a year ago, when local conservationists and state environmentalists, including the Game and Fresh Water Fish Commission, forced cessation of these activities. An extensive loss of littoral zone, and the creation of deep holes unsuited to aquatic life, went a long way toward hurting the sportfishing potential of the area.

Tests with chemicals, nets, and shocking equipment indicate the fish population in Lake Osborne is improving, and, barring further manmade depredation, but including proper fish management, should become an important adjunct to the general recreational fishing picture in that growing area.

Where Florida was once noted for its many lakes all full of game fish eager to strike bait or artificial lure, the ever-increasing population pressure has taken the edge off sport fishing in many bodies of water. So, what Mother Nature could once control through natural selection, Game and Fish Commission biologists now are working to improve.

Photo By Art Runnels

Nets are used by fish management personnel to help check fish population balance. Shoreline sets tell one part of the story; deep water tells another. Chemicals and electricity aid in getting overall picture of lake's fishery.

In another phase of fishing improvement, several lakes in Florida have received "fish attractors"—structures in the form of tires, terra cotta pipes, concrete blocks, and brushpiles, which have proven successful in concentrating catchable fish for the angler.

As smaller fish are attracted to the protection of the submerged attractors, the larger game fish are in turn attracted by the bait fish—a situation which in turn always manages to attract a crowd of fishermen.

After each lake in the study is sampled by one or more methods, and the collected fish are counted, identified by species, weighed, and checked for outward physical condition, the figures are examined to obtain a general picture of the condition of each lake. This information forms the basis for selecting possible improvements open to fish management personnel.

These figures are then added to other regional and statewide information on hand to obtain a complete picture of fish and fishing throughout the state.

The angler who purchases his Florida fishing license helps finance these programs, and the direct results are increased fishing recreation opportunities for the license buyers.

Selection of test lakes, the logistics of gathering work teams and equipment, the mechanics of placing nets, spreading chemicals, collecting fish, determining shocker boat locations, and the purely physical labor involved in this work is all worthwhile to the fishery teams when that licensed fisherman can hold high a string of fine fish and smile about his day on the water. ●

Spring Specks

crappie fishing has become a cult with some; an occasional thing with others—perhaps the "in-between" anglers are the happiest of all

By **CHARLES WATERMAN**

THE SPECKLED PERCH may not destroy much tackle, but there are Florida fishermen who put it at the top of the list. Their methods can range from sleepy drifting with live bait to energetic rowing against a current and firing careful casts at tough targets.

In Florida, the black crappie, or "speck," is most frequently a cool weather target, so the real crappie season comes in late winter and early spring when the fish are preparing to bed. If you choose that season and are willing to spend a little time looking for flotillas of drifting or trolling skiffs, you don't need to worry about prospecting for your own. Most of that fishing is done in open water, whether on lake or river, and finding such a convention is the quickest way of getting into the crappie business. On the other hand, if you'll spend some time snooping around on your own you'll frequently strike it rich without competition.

Brushpile fishing is tough on your lure or hook supply. I like the term, "brushpile," because crappie tend to live where there's plenty of underwater cover and are likely to choose a batch of small branches rather than a single big log or stump. That doesn't mean the latter isn't good—just that the former is more reliable.

A few energetic crappie experts establish their own versions of artificial fishing reefs. They pile some brush in their boats, find what looks like a suitable spot where there isn't too much traffic, and sink their readymade hideouts with weights. Such shifty operators scorn buoys that might attract other fishermen. Instead, they work out some foolproof landmarks so they can get back on the scene without much difficulty. A half-dozen such setups may give them fishing for an entire season, or maybe even two or three seasons. Sometimes the obstacles on the bottom build up rather than deteriorate. Drifting junk will catch on these sunken forests, and the layout gets better as time goes on.

Unfortunately, some beautiful brushpiles don't work out at all for reasons known only to the crappie themselves.

Most of my crappie fishing has been done where there's some river current and that makes it easier to locate fish, simply because the surface movements give a clue to what's down deep. A slow eddy is a good bet. If the current is moving straight you'll frequently find fish where something juts up or out into the flow and breaks the pattern. Crappie are like everybody else. They prefer not to fight the current if they can get protection, even when they want to be close to moving water that carries food.

Now if I had to describe the ideal river or creek spot for crappie, I'd pick a place where there's a little bend in the current that has gouged out fairly deep water near the bank, but where tree roots or willows have broken the force of the water and collected some branches, and possibly water hyacinths. Fishing such a spot is likely to be something like dropping quarters into a jug but it sure keeps you awake. It also develops the biceps of whoever handles the boat with oars or paddle. If you use a motor and fish at the same time, you will have a new respect for the word, *ambidextrous*. You may also find you have a vocabulary of unsuspected depth—but if you keep fooling with such places you're going to catch some fish.

Usually, not always, the fish will be downstream from the obstacles, or directly under them. However, current that strikes an obstacle tends to build up a cushion of slow water above it and accounts for many fish that seem to be living in the wrong place. Fishing just upstream of an obstacle is tougher than fishing below it for the forces of nature tend to carry your lure or minnow right into trouble—and when you hook a fish you find that the meekest speck can turn into a holy terror, for he tends to swim into a hole and pull it in behind him. Those who fish such spots with weighted jigs, for example, often acquire an interest in making their own lures or in buying tackle shops of their own.

It doesn't classify as a "bottom fish" in the usual sense, but the crappie lives down there nearly all of the time. This characteristic causes some fishermen to assume he is always in deep water, and that isn't so. Anyway, you have to fish near the bottom in most Florida waters most of the time.

Most of the minnow fishermen use bobbers of some kind. Since the crappie is a gentle biter the float is usually fairly small. Although worms are good crappie bait, it's generally small minnows in Florida. You can fish banks and brush very well with bait, and I think a cane pole does it better than more sophisticated gear unless you do a lot of practicing. Probably the second choice for bait

(*Continued on next page*)

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fishing would be a light and long spinning rod, but the casts are generally short if you use a boat. It's just that kind of fishing. If you want to fish specks from a bridge or bank the spinning tackle is better, of course.

In fishing deep banks with spinning tackle, the most effective casts are seldom more than 25 or 30 feet. If you're using a small jig it will probably weigh about an eighth of an ounce and your monofilament line should be around 4- or 6-pound test. I like the four because the small diameter allows the lure to get down faster. It may have some bearing on the number of strikes. Although I'm not convinced that the speck is particularly leader-shy, the smaller line will give a lure better action. When a fish goes into the brush, of course, you wish that you had 20-pound line.

The accepted procedure with the small jig (hook size about a No. 4) is to allow it to sink until it strikes bottom and then retrieve it gently with a series of lifts, causing it to leave the bottom and then drop back to strike again. The fish frequently take as the lure is dropping back, a strange feeling for the man with the rod. There's no tug; the bait just doesn't get back down. But you don't have a great deal of slack and hook setting isn't complicated. You lift the tip briskly and it's here that you see the merit of a soft rod, for the speck has a papery mouth that won't take much yanking. A hook that's too small may pull out quickly.

It's seldom that you must give more than a couple of feet of line, and if you let him run he'll do what Dr. H. R. Wilber used to call "knitting an afghan." He'll hang you up down there in the brush. The best procedure is to give him very little or nothing and keep him at about the level he took the bait. He'll tire quickly but while he's still pulling with his broad side to you it's best not to force things. About 10 seconds should be the extent of the hardest fighting unless your fish is so large he can stay upright and just swim where he wants to. Lifting upward is what whips him, and that's one reason for the short casts for you lift better when your rod tip is almost directly over him. Do it gently, but don't fool around. If you let him tug too long the hook hole is apt to enlarge and your fish is gone. And as he comes up to the surface, keep tension on him, for no other fish demands a tight line more. Give slack and a large percentage of the hooks will simply fall out.

I have noticed a distinct preference for certain colors of jigs on given days. The most commonly used around Florida are yellow and white, and while I can't say one is better than the other, the fish will show a desire for white today and yellow tomorrow. Shiny materials such as tinsel or Mylar can be added to any kind of jig, and some successful jigs are made up entirely of gleaming material.

Some former jig users have gone almost entirely to spinner-fly combinations. Here the method of retrieving must be modified a little. You can drop a spinner to the bottom, of course, but it fouls frequently and stops working. With the spinner I have seen little advantage in stop-and-go operation, and it does about as well if you just crank it in. The speed of retrieve should be adjusted to keep the bait near the bottom. Very fast cranking isn't good, but a great range of speeds will catch fish. If I had a choice, I'd say to retrieve as slowly as possible without stopping the spinner.

The most successful panfish spinners are usually very light and rigged to turn with very slight forward motion. I believe a small treble-hooked fly will get the best results. Squirrel tail has been highly successful as fly dressing, but I wouldn't be too particular about that.

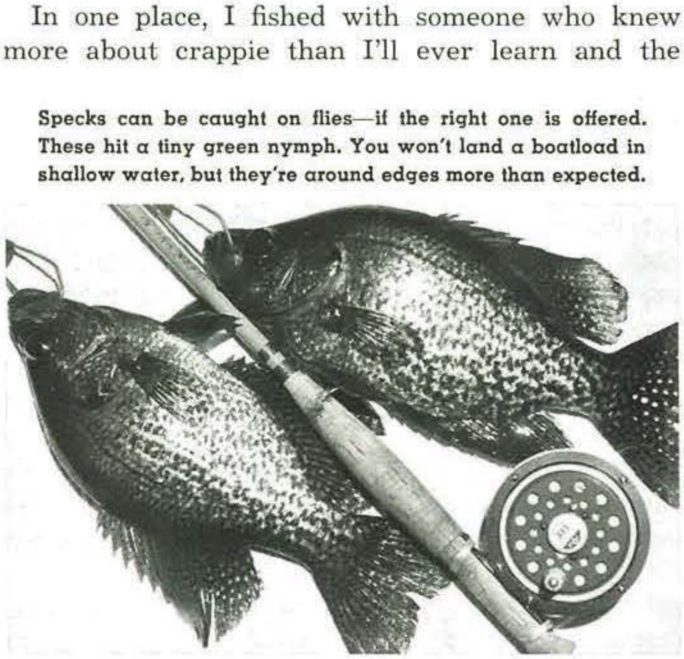
The casting weights for most of these little spinner combinations are usually in the form of gold or silver beads. Years ago, the panfish spinner-fly usually had its weight up ahead of the spinner. Now, it is generally between the spinner and the hook.

Most of the specks are caught in more than 2 feet of water. As spawning time approaches they are likely to show up along selected shallow shorelines, and it is in these places I think the spinner-fly rig is usually better than the jig for it can be retrieved more slowly without sinking. I have seen some exceptional crappie catches made in water less than a foot deep, but this is the wrong place for taking a string of fish from a small area. Boat passage will cause too much disturbance in shallow water, and it's likely to be only one or two fish to a stop.

I have a low opinion of shallow water with a gunky bottom of poisoned or frozen hyacinth remains, but I have seen some fine crappie lying in such places.

In one place, I fished with someone who knew more about crappie than I'll ever learn and the

Specks can be caught on flies—if the right one is offered. These hit a tiny green nymph. You won't land a boatload in shallow water, but they're around edges more than expected.



Common sense dictates the wearing of lifejackets during unusual hazards or fishing methods—such as in stormy weather or while using a pneumatic tube in deep water.

water was so shallow, with such a bottom carpet of hyacinth debris, that every fish stirred a greenish cloud as he chased the little spinner. Our boat was over about 3 feet of water, but the fish were along an edge that was less than half that deep. To keep me in line, the other guy fished from the bow and caught all of the fish. By the time I got there from the stern the fish had already moved out into deeper water.

Until last year I had disappointing results with fly rods on crappie. Oh, there were some heaven-sent times when I found them taking popping bugs on top, generally at a shallow run-in along a river or creek, but my more successful efforts had been with sinking lines that dredged the bottom, and that isn't my idea of fly-fishing fun unless the fish are mighty big.

But last year we used some slightly weighted green nymphs—those little numbers that Al Klemack ties up down at Lake Okeechobee—and came up with some pretty nice specks without too much labor. We didn't even use a sinking line—just gave the little "worm" time to sink in about 3 or 4 feet of water, using a 9-foot leader, and then twitched it a few times. It wouldn't have worked so well in really deep water.

Now one of the extras about crappie fishing is the possibility of catching an occasional bass. Happens very frequently with minnows but not very often with the little jigs, in my experience. If I wanted to increase my bass opportunities I'd prefer the spinner to the jig. The little green nymph—Milt Culp calls it a "greenie"—doesn't do too well on bass, but it's a very small fly, usually on a No. 10 hook.

Maybe I wouldn't want to spend the rest of my life fishing for crappie, but four or five trips can be lots of fun.

LIFE JACKETS aren't found on too many really small boats. The fisherman who doesn't go very far and operates in sheltered waters is usually satisfied with the legally-required cushions. Now cushions are a whole lot better than anchors in case of a shipwreck, but when it looks as if there might be trouble because of rough weather it's nice to have a life jacket, even if the boat's only 10 feet long.

Some months ago I wrote something about life jackets, saying that although we use life cushions constantly, we also have life jackets aboard in plastic bags when we use a canoe or little John boat. A boating expert took me to task on that and said I'd given some bad advice. You can't get a life jacket out of a plastic bag in a hurry, he said, and he's right. He said life jackets should be at hand so that they can be used instantly.

Now no one can argue with that logic. However, it's been my experience that most users of cartop and other dinky boats don't want to bother with both jackets and cushions, and end up with cushions only. By carrying jackets in a bag you can put them aboard rental boats and keep them in good shape. Our system—and it probably isn't the best—has been to put the jackets on only when there's a special hazard such as severe weather. The cushions are there all the time in case of sudden emergency. Not ideal, but better than leaving the jackets at home the way most small-water fishermen do.

I TOOK THIS bass fisherman down into south Florida and put him into a herd of big tarpon. He cocked his plugging outfit, bounced a plug off a tarpon's nose, and then grunted when 100 pounds of fish struck and threw water into the boat. He did about the same thing half a dozen times, and I thought the trip was a big success, but as we were getting ready to go back in with his busted tackle he stared wistfully off into the distance.

"All I want is to catch a 5-pound bass!" he said.

Fishermen tend to be specialists. A black bass angler thinks a 100-pound tarpon is very nice, but it may not be quite what he has in mind.

I was on an offshore trip with a boat captain who took his eyes off a big blue marlin for a minute and confided that his own sport was bluegills. I know snook fishermen who think tarpon are obstacles to their real objective.

There are those who refuse to recognize any fish that doesn't belong to the trout or salmon family. One western trout fisherman of exceptional ability wasn't interested in casting his flies at Florida bonefish or tarpon. He doesn't want to come to Florida. He wants to go to Argentina where the trout are bigger than in his own backyard. He doesn't say the trout fight any harder, that they're better to eat (he never kills one), or that they're any prettier. But he's a trout fisherman.

Such specialization makes for master anglers, but many of these guys can have more fun by branching out a little. I'm not criticizing, you understand, just commenting. ●

Willy the Weasel

not really wicked — just wild

By GENE SMITH

Once in a while the 'phone rings or the radio crackles and a wildlife officer hears a new one. Like the day in February 1972 that Jim Parker, of Jefferson County, was summoned to the telephone building in Monticello to deal with a small brown wild animal that had found its way down into a concrete outside stairwell but couldn't find a way out.

It was a rare specimen—an adult long-tailed weasel, or Florida weasel, *Mustela frenata,* "Florida's rarest carnivore" (See the article by that title in the April 1972 issue of FW, page 4).

Parker managed to catch the elusive, odd-smelling creature alive and unharmed by chasing it into a box—getting bitten only once in the process. Then he delivered it to the Tallahassee office for photographing, study, and final disposition—knowing it was a prime specimen for a scientific collection. Assured that it would be penned up securely for observation as a precaution in case it was rabid, Jim trudged off to get his tetanus antitoxin shot.

As things turned out the weasel was hale and hearty, and surprisingly well-mannered. It posed nicely for cover photographer Bill Greer, ate and slept well, exhibited interesting toilet habits, played games, made very little noise, and was a solid hit with the entire office staff until its untimely demise in August 1972, when it apparently choked on a chicken bone.

The weasel is also Florida's smallest carnivore, or meateater. Its diet in the wild includes birds, rats, rabbits, moles, squirrels, and small reptiles and amphibians—lizards, snakes, frogs, and salamanders. This little mammal, ounce-for-ounce, may be the most ferocious hunter and killer on the continent. So quickly does it strike that most small animals are helpless before its attack. The weasel climbs well, too, so entering a henhouse is no particular problem, and once inside Br'er Weasel has been known to kill, kill, kill without slowing down to eat.

Its bloodthirstiness aside and its modest appetite assuaged, our captive specimen proved quite peaceable, though never completely trusting. During the six months we observed and cared for "Willy," he (or she—the question has never been settled) never allowed himself to be stroked, but he was taking food from my hand within two weeks after we became acquainted.

His favorite food appeared to be raw chicken. Gizzards and livers were accepted as rapidly as they could be offered, and his habit was to cache his extra food under the moss and leaves in his roomy enclosure. Wings and backs were eventually cleaned to the bone; small bones were consumed, especially those of the back and breast of chicken. Occasionally, Willy got live white mice, which he invariably dispatched quickly with a lethal bite through the skull or nape region. He consumed the entire mouse, fur and all, as far as I could determine by examining his cage the morning after mice had been on the dinner menu. He also ate chameleons and, once, a stray beetle.

After feeding on chicken parts he almost always rubbed his muzzle and cheeks on the leaves and along his climbing log, as if cleaning his face and whiskers of any fat or clinging food particles. Then Willy often stretched, yawned widely a time or two, and retired beneath a clump of Spanish moss for a long snooze from which it was surprisingly difficult to awaken him. Though weasels are normally nocturnal, Willy often slept late in the morning, curled in a neat little package with his tail covering his face—and he was a slow waker-upper. It always took him a few minutes to get fully alert when aroused from deep slumber.

As he was careful to wash his face after meals, Willy also proved fastidious in matters of his toilet. He used just one corner of his sand-filled cage, and he always got so close to the wire that more often than not his feces dropped outside. It was a simple matter to clean his cage and add fresh sand, which he always inspected and sniffed very carefully once the door was closed.

A favorite posture of Willy's when in a playful mood was to flatten himself full length, with chin and legs extended, and look up at his viewers as if to say, "Well, now that you've seen me, what d'ya think?" With his nose right against the wire it seemed he was inviting somebody to scratch his ear, but if a hand moved in his direction Willy invariably retired to the rear of his enclosure.

When he was feeling extra playful, or perhaps just needing to burn up some excess energy, the supple and agile animal would run round and round in his pen, then climb up the wire front and hang there momentarily, peeking through the mesh. He always remained in an upright position; never upside down, as a caged squirrel might rest.

Speaking of running, weasels certainly can. One evening in April I was cleaning a small carrying cage and changing his bedding when Willy got extremely nervous at the disturbance and zipped out the partly open cage door. He was genuinely riled, all right, for he had begun to release a very strong musk, and his black, beady eyes were almost literally flashing fire. He streaked between my feet and across the back yard in a headlong dash to freedom. His gait was bounding, with the belly stretched at each stride and the tail straight out.

I was amazed at the speed and evasive moves he had! He could turn on a dime, run on the ground, climb through the hedge, and twice during the ensuing 45-minute chase he treed for brief moments to rest.

With luck and the help of all the neighborhood children and half the adults, Willy was recaptured. Just before nightfall he made the mistake of going into a culvert. We captured him with crab nets and heavy gloves when he emerged. It had been some workout!

An interesting behavioral characteristic was observed during the weasel's brief outing: At the height of the chase he treed in a tall ornamental evergreen. Coming across a nest containing four young mockingbirds, the weasel took the time to kill three of them. (The fourth apparently escaped death by feigning it. When I placed a ladder against the tree and climbed to within reach of the nest, now containing the weasel too, the surviving bird was huddled with its dead nestmates and lying perfectly still with its eyes closed.) Obviously, the sight, smell, and warmth of the prey had elicited an attack response that the weasel, even in its haste to avoid its own pursuer, was compelled by nature to obey.

Willy was restless for days following his escape and recapture, but did eventually settle back into his old routine, appearing perfectly content with confinement and hand feeding—at least as long as he was kept in his large pen. He never cared much for his smaller, specially-made carrying cage after that experience though.

During the six months I observed the weasel I only heard three vocal sounds out of him: a low snarl, or growl, a soft, almost inaudible "kissing" sound, and an ear-splitting screech.

The growls accompanied his capture when being transferred from one cage to another—yet, he had remained strangely mute when recaptured after his jailbreak.

The kissing noises were uttered in series when I approached his cage with food, especially if he had missed a meal. Willy would move up and down at the front of his cage making the sounds, which were so soft they probably couldn't have been heard from more than two feet away.

Willy's piercing, open-mouthed screech shocked me. It was more sound than a little animal is supposed to make. He let it fly the first time Pedro, our neighbor's dog, approached his cage. He uttered it twice, in 1-second bursts—and it stopped Pedro dead in his tracks!

Many good woodsmen never see a live weasel in a lifetime of outdoor activity. Many a man has worked years and years in wildlife conservation and never had the good fortune to come across one of these scarce and uncommonly shy animals. So, I treasure my brief encounter with Willy all the more.

He was one cute little "killer." ●

Photos By William Greer

a battle won . . .

Comeback of the Key Deer

WILL SUCCESS SPOIL the Florida key deer? It could happen. These diminutive deer, which, full-grown, are scarcely larger than a collie dog, live only on the islands of the lower Florida Keys. Once hunted almost to extinction, they have made a remarkable comeback in the last 25 years.

Now, these graceful creatures are again threatened, this time by hazards far more subtle than the blast from a poacher's shotgun.

For example, we've given the key deer more forest-edge browse clearings than they've ever had before. We've bestowed upon them all the food they can eat, by protecting their woodlands and by planting gardens which delight them! Our mosquito control ditches provide the deer with abundant watering holes. We've all but eliminated human predation by making it illegal to hunt key deer. And, these animals have no significant natural enemies. In short, we've created what appears to be a deer's version of paradise.

There's a real danger, though, that the key deer now have too much of a good thing and will ultimately suffer as a result of man's largesse. This prospect worries Dr. Willard Klimstra of Southern Illinois University, a biologist who has been studying the key deer on their native islands since 1968.

Dr. Klimstra is concerned that an enhanced environment plus improved nutrition could equal too many deer in not enough space.

"We may be increasing the carrying capacity of the key deer's habitat beyond its natural limits," he suggests, "but the islands won't get any bigger. In relatively confined areas like the Florida Keys you can get population build-ups. The question is whether the key deer will accommodate themselves to the need for population control."

Klimstra recalls a classic example of overpopulation in a confined setting, the result of removing mountain lions and other predators from the isolated Kaibab Plateau on the north rim of the Grand Canyon. Between 1907 and 1925 the deer population there rose from 4,000 (with 175 acres for each deer) to 100,000 (with only seven acres per deer). The herd depleted its food supply, and serious soil erosion developed on the defoliated plateau. Then, in two tragic winters, 80 per cent of the Kaibab deer died.

Government biologists surveyed the key deer herd in 1947 and estimated that fewer than 50 individuals remained. Today the herd is up to around 750 animals. Jack C. Watson, manager of the 7,119-acre National Key Deer Refuge, thinks he has enough land to support 1,200 to 1,500 deer.

Watson is the main reason the key deer herd exists at all today. The refuge wasn't established until 1954, but Watson came to the Keys full-time in 1950 when the state closed them to hunting. (There had been a law against killing key deer as early as 1935, but it had not been successfully enforced.)

Watson is a tough cop with a gentle soul. If you're a deer—or a deer lover—he'll greet you warmly and glory in your presence. If you're a poacher, though, this wily and woods-wise man will stalk you mercilessly through the underbrush, greet you with brittle politeness, and haul you before a federal judge.

Under the Endangered Species Act, shooting a key deer is punishable by a $500 to $5,000 fine and/or 6 months to a year in federal prison. What's more, the court can confiscate the motor vehicle and gun used in committing the crime.

"Already this year I've bagged three poachers," Watson reports. "Two of them lost their guns and were fined $350 apiece, and they didn't even hit the deer they shot at."

Watson chuckles about the time he saw some shady characters park a pickup truck along a refuge trail and set out through the woods with shotguns in hand. Tall grass between the ruts of the trail came in contact with the bottom of the hot engine, began to smolder, and burst into flames. So did the truck. Watson waited for the smoke to attract the attention of the hapless hunters then arrested them when they returned in consternation to the fire.

Jack Watson may be a poacher's nightmare, but he's unable to teach his deer that they should look both ways before crossing a highway. More deer fall victim to motor vehicle collisions than to anything else. In 1971, cars killed about 65 deer. There were 33 fatalities in the first half of 1972, and mortality always rises during the fall rutting season when the deer become totally preoccupied with reproduction.

Dr. Klimstra expects this problem to worsen as vigorous real estate activity brings more traffic to the Keys. Homes are springing up rapidly on Big Pine Key, where the refuge headquarters and about half the deer are located. There are seven subdivisions on privately-owned land within the refuge boundaries, and three of those haven't even been developed yet.

Paradoxically, the deer don't mind having human neighbors. Homesites mean forest-edge clearings, and the deer thrive on a diet of landscape plantings.

"There's a big business in fencing around here,"

Photo By George Leposky

By GEORGE LEPOSKY

Watson says. "A guy on Little Torch Key called me one night complaining that our deer practically cleaned out his garden. I told him to wait until the end of the month and we'd send him a bill for maintenance and trimming."

From an ecological standpoint, the deer may ultimately suffer more from those banquets of succulent cultivated goodies than from the depredations of the automobile. Gardens provide new kinds of vegetation, more palatable and nutritious in many cases than natural browse. Since residents can't fight back by shooting a marauding deer, even if they'd want to, the herd is free to increase in number and in its dependence on man as a supplier of food.

The developed real estate on those keys shared by deer and men is still relatively dispersed, so human population densities are still low. If and when development transforms those islands into busy little cities, however, the deer may find themselves squeezed out by the sheer volume of human activity. They'll then be forced to retreat back into the forests within the refuge boundaries, but by that time the herd may have grown so large that its members will be unable to find enough natural food and living space on the refuge lands alone.

Whether overpopulation actually occurs will depend on a variety of factors. Alligators and crocodiles eat a deer when they can catch one, and infrequently a shark will devour a deer swimming between islands. These are relatively minor forms of natural population control which serve to weed out a few of the weaker individuals. Men and the deer themselves are the major regulators of the herd's size.

In studies elsewhere, scientists have found that deer respond to population stress by controlling their own numbers. They mature later, thereby avoiding the opportunity to breed in the first year of life. They also produce twin fawns less frequently. Dr. Klimstra has found little evidence of twinning among the key deer, and he suspects that these self-regulating biological mechanisms may already be at work in the herd.

With the exception of the few poachers who elude Watson's grasp, the human impact on the deer population control is inconsequential, except that Dr. Klimstra views the motor vehicle as the most efficient instrument of external population control now affecting the key deer.

Eventually, man may have to take deliberate action to thin out the herd. Controlled hunts are a possibility, and animals could be captured and shipped to zoos for display purposes. Dr. Klimstra concedes such measures may be necessary, but he doesn't like them.

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"I don't believe we can justify hunting an animal with such a confined habitat," he states. "It will never exist in particularly large numbers. And when you take the key deer out of the Keys, he's no longer the key deer. He is what he is because of the restrictiveness of his environment."

That statement is more than a mere emotional response. There's a possibility that, over time, a herd of key deer penned in Chicago or California would literally cease being key deer. In the course of several generations spent in a different environment, these animals might increase in size and modify some of their unique behavioral traits—such as a 5-month rutting season, compared to 6 weeks for northern deer.

The key deer is classified as a "race" or subspecies of the eastern white-tailed deer. How it got isolated from its mainland relatives remains a mystery.

During the Ice Age, vast quantities of earth's water supply were locked into glacial ice sheets. The oceans were lower and the Keys were part of the Florida mainland. Perhaps the deer occupied that region then, and were stranded about 50,000 years ago when the ice began melting and the oceans started to rise.

Perhaps the animals colonized the Keys during the period of inundation, island-hopping before the intervening channels attained their present width and depth.

Perhaps the Calusa Indians imported the deer to the Keys as recently as 5,000 to 7,000 years ago.

In any case, during centuries of isolation the key deer developed unique characteristics—and the race is still in a state of evolutionary flux.

The most obvious change in recent years has been an increase in size.

A refuge leaflet printed in 1965 indicates bucks weighed 60 to 95 pounds, while does weighed 35 to 65. One buck hit by a car last year weighed 137 pounds.

On the average, key deer stand between 26 and 32 inches tall at the shoulder. It's possible, though, that more deer are now attaining heights near the upper limit of this average range.

Watson explains the increase in size by noting that, once under protection, the deer expanded their range from five islands in the 1940's to 18 today. This initially gave them more room to forage and breed. Also, they seldom survived more than 3 years before being gunned down by poachers, but now they live 6 or 7 years and display "middle-age spread."

One wonders, of course, whether this external manifestation of prosperity is reflected in the gene pool of the key deer. In the past, natural selection evidently favored smaller individuals. Now, it's possible that intimate contact with benevolent man is confusing the ground rules.

With our help, the key deer may be evolving in directions which have short-term benefits and long-term pitfalls for the race. Bigger deer may be able to jump higher fences to get at a carefully-tended garden, but will they be successful in wending their way through the dense mangroves, palmetto-carpeted pine forests and thick jungles of their native environment? Will they be as tolerant of the intense tropical heat as are their smaller brethren? Will success spoil the key deer?

Only time can tell. ●

Florida Department of Commerce Photo

In recent years the annual road kill of key deer has exceeded what the entire population was 25 years ago—some 50 animals. Now, the herd numbers approximately 750. A reduction to avoid overpoulation may be the next step.

Florida's Endangered Dozen

apparently doomed to early extinction, some of Florida's threatened wildlife species can still be "saved by the bell" of environmental protection and planning

By DAVID LAHART

FLORIDA IS CHANGING. Look around. You can see many changes taking place, but there are other changes you can't see. Many of these smaller, more subtle changes influence Florida's environment more than the obvious ones. Scientists monitor and predict the results of these environmental changes, and wildlife helps them.

Wildlife is more sensitive to environmental changes than man. Wildlife can tell us when a stream is too polluted, a marsh is too dry, a forest is being overharvested, or if a watershed is loaded with pesticides. By studying wildlife, man can study the environment.

Florida is fortunate to have abundant natural resources and a climate that lets us enjoy them. But our wildlife is trying to tell us something. Each year the plight of another species comes to our attention. Here are the stories of a dozen Florida animals that are hovering on the brink of extinction.

Pine Barrens Tree Frog

THIS FROG IS SO RARE in Florida that it wasn't discovered until 1970. Its range seems to be restricted to a very small part of Okaloosa County. Almost nothing is known about its life history here, except that it is very secretive. The Florida Game and Fresh Water Fish Commission placed this 2-inch amphibian on the endangered species list until more can be learned about the size of the population, its habitat requirements, and its Florida range.

The New Jersey population of this tree frog is found in the swamps, bogs, and brown, acid waters of the pine barrens. Like all hylids, the pine barrens tree frog has discs on the ends of its toes. The light-bordered, plum-colored band along each side of the body, with the yellow spots below, give this beautiful little frog its unique character.

Until the recent discovery, the closest this frog had ever been found to Florida was in North Carolina. An expedition from Cornell University found it there in 1922. There is a lot of speculation as to how and when this species joined Florida's nine other members of the family *Hylidae*. We may never find the answers, but this interesting creature nonetheless adds more diversity to the fauna of the state.

Wood Ibis

THE WOOD IBIS may better be called a stork. It is the only member of that family living in North America. The fate of the wood stork is tied to its breeding grounds, which are located in Florida. Although the huge wilderness tracts are gone forever, some sanctuaries remain, and in these the remnant breeding population of storks annually attempts to produce more of its kind than were lost during the previous year.

The great birds, commonly called "flintheads" or "ironheads," converge on Florida swamps during the winter breeding season. High in the trees they build their nests of sticks, where three or four brown-spotted, white eggs are laid. When nesting is over, the wood storks scatter throughout the Southern states.

Storks are highly social, and where flocks gather to feed they make a striking picture. Shallow ponds and coastal lagoons and marshes are their favorite haunts. When feeding they move slowly over the soft bottoms, their feet stirring up fish, crawfish, and small water snakes, which are seized between their heavy, downward-curved mandibles.

Wood ibises require extensive marshy areas, but drainage, development, and drought are destroying their feeding grounds and breeding sites. Also, in recent years cold temperatures and winter gales have discouraged nesting attempts in the few remaining colonies.

Brown Pelican

THE BROWN PELICAN is a comical, ungainly sight familiar to residents and visitors along most of Florida's coasts. The state has a relatively stable population of brown pelicans, but recent evidence shows the presence of DDT and its metabolites in the tissues and eggs of pelicans here. Gradual interference with these birds' reproduction, coupled with the destruction of valuable coastal habitat, may push them to rapid extinction. Brown pelicans have already disappeared from wide sections of their former range in other states.

Mangrove trees provide nesting sites for pelicans, and the beginnings of a complicated food web that affects not only pelicans but men.

Pelicans make their 2-foot nests of sticks, grass, and reeds during the early summer. They usually

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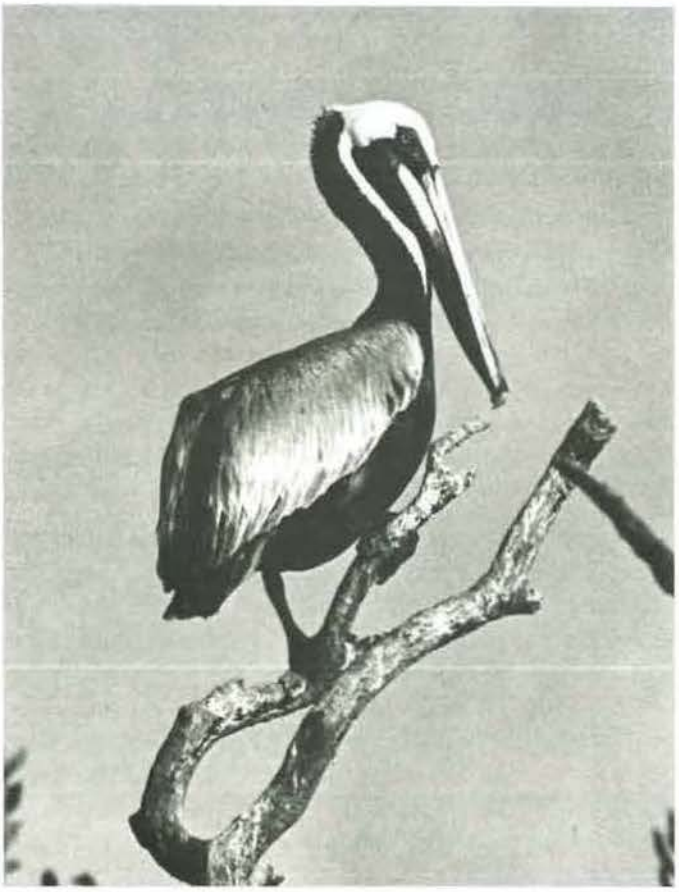

Photo By Lovett Williams

Florida has a stable population of approximately 20,000 brown pelicans, but studies show egg shells are 9% thinner than normal. Chemical contamination problems of food chain can possibly be avoided by pesticide-pollution controls.

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lay three white eggs, which hatch in about 30 days. Both parents share in incubation chores.

The real work begins when the young are hatched. The adults will spend most of every day during the next 9 weeks diving into the sea catching fish for the ever-hungry nestlings, each of which will devour approximately 150 pounds of fish during that time. At the end of this period, the immature birds should be able to fly and catch their own meals.

As long as coastal zones are endangered, so will be the wildlife associated with them. The mangrove islands are most important. Water winds in and out of these thick trees in a maze of channels that regulates and distributes the flow. Nutrients picked up from the land are slowly absorbed by the vegetation, and with leaf-fall or the death and decay of the plants themselves an important food chain starts to develop. Algae and fungi assist in breaking down the plants and provide food for a wide range of aquatic animals.

The countless pools and channels provide the life-support system for many species of juvenile fish and the larval stages of shrimp and other invertebrates that are important both to pelicans and to people.

The brown pelican is a great bird in trouble. It seems unthinkable that man cân allow, and perhaps even help, this magnificent animal to fly into oblivion.

Florida Panther

ONCE DISTRIBUTED throughout the state, and practically the entire North American continent, the panther's range in Florida is now limited to the Everglades, with occasional occurrences elsewhere in the state. In 1967, a panther was illegally killed in the Ocala National Forest, and just last year another was struck down by an automobile near the southern edge of Lake Okeechobee.

Panthers are meateaters. They feed on deer, feral hogs, skunks, rabbits, and an occasional raccoon. Man and predatory animals have never been able to coexist. While Florida continues to develop, these large cats retreat to less land. Panthers enjoy complete protection from being hunted here, but the piecemeal development of wild areas threatens their precarious position. Coming generations may only see live panthers in zoos.

As many as six buffy-colored, black-spotted, young are born in February. The kittens weigh about 1¼ pounds at birth and are blind for the first 8 or 9 weeks of life. Mortality is high. Only two or three kittens survive to take their first hunting trip, at 3 months of age. The young stay close to momma for about 2 years, at which time the family bonds break. The then-mature panthers begin looking for mates.

Not many of us will ever see a panther in the wild, but the knowledge that we might heightens every outdoor experience. The unexpected adds a dimension of quality to our lives, and anticipating the sight of a wild, free-living Florida panther should make every field trip an adventure.

Okaloosa Darter

FLORIDA'S OKALOOSA DARTER is a slender little fish that attains a length of only about 2 inches. It is greenish above and lighter toward its underside, with a few indistinct blotches along its sides.

Not much is known about this tiny member of our fish population. It is one of at least 10 darter species found in Florida, but the range of the Okaloosa is far more restricted than are the ranges of the others of this group. It is found only in the western panhandle and only in sandy-bottomed streams there. Any dredging, mining, or landfill operation, or any significant increase in water pollution within the Okaloosa darter's range may well mean that Florida has lost another species of wildlife.

The Okaloosa darter is an example of a small, isolated, and seemingly insignificant species of animal that biologists hope to learn more about before it is too late. Perhaps by learning about this creature man can learn more about himself, both as a biological organism and a rational creature who, collectively, controls the fate of many organisms.

Indigo Snake

Snakes are the most misunderstood creatures on earth. Most people hate them, and the few people who love them often love them to death. Such is the case with the indigo snake.

The indigo is a 5- to 6-foot serpent, occasionally longer, that is a shiny, blue-black except for the chin and head, which may be orange-brown.

Even when picked up, indigos seldom attempt to bite, and they become tame almost at once. They will take almost any sort of prey—rabbits, rats, mice, and sometimes other snakes, including the diamondback rattlesnake. (But if indigo snakes are around, rattlesnakes are usually absent.)

Because it often takes shelter in burrows made by the gopher tortoise, the indigo snake is often called "gopher snake," which is not inappropriate because it occasionally preys upon the pocket gopher, or "salamander," in one of its many underground tunnels.

The beautiful indigo snake is a big, completely harmless reptile. Only a few remain in the wild. As Florida becomes more populated there are fewer and fewer areas that will support indigo snakes, and snake fanciers have always prized the gentle indigo. Collectors reduced its numbers considerably before Florida placed it on the list of fully protected wildlife species. Many are undoubtedly still smuggled out of Florida, where it is a violation of the law even to catch one or to possess one without a permit from the Game and Fresh Water Fish Commission.

If the indigo snake is to be saved from extinction, there must be cooperation and compliance with the laws which protect it.

Round-tailed Muskrat

The Florida water rat looks like a small muskrat with a round tail, but this brown rodent seldom gets over 1 foot long. Unlike the northern muskrat, the round-tailed muskrat is at home on land or in the water. Very shy and retiring, it needs marshes to survive, and the combined forces of dredging and drainage have reduced the population to a fraction of its former size.

Our water rat's house resembles a miniature haystack poking above the quiet waters of some marshy cove. The structure usually stands 2 to 3

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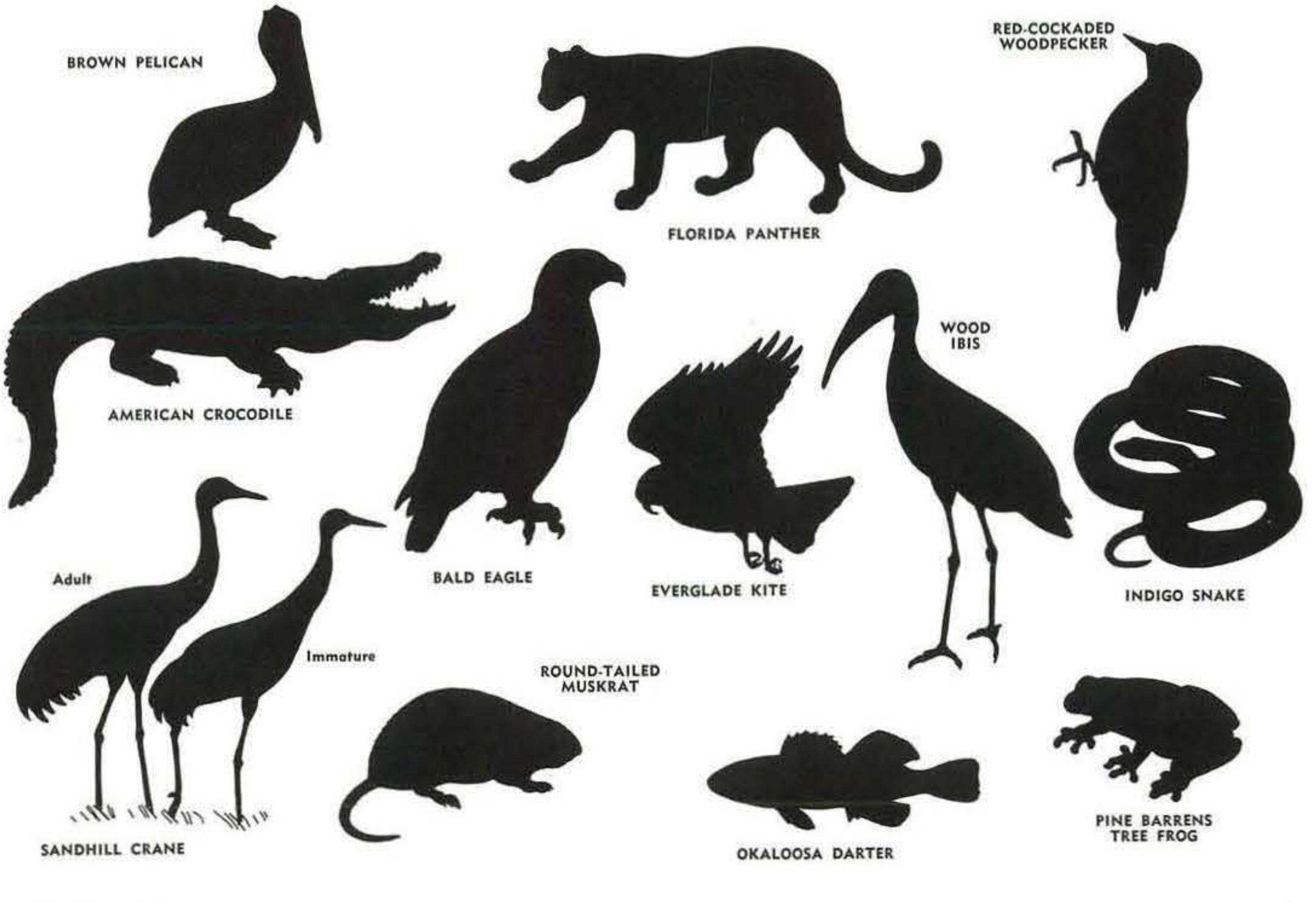
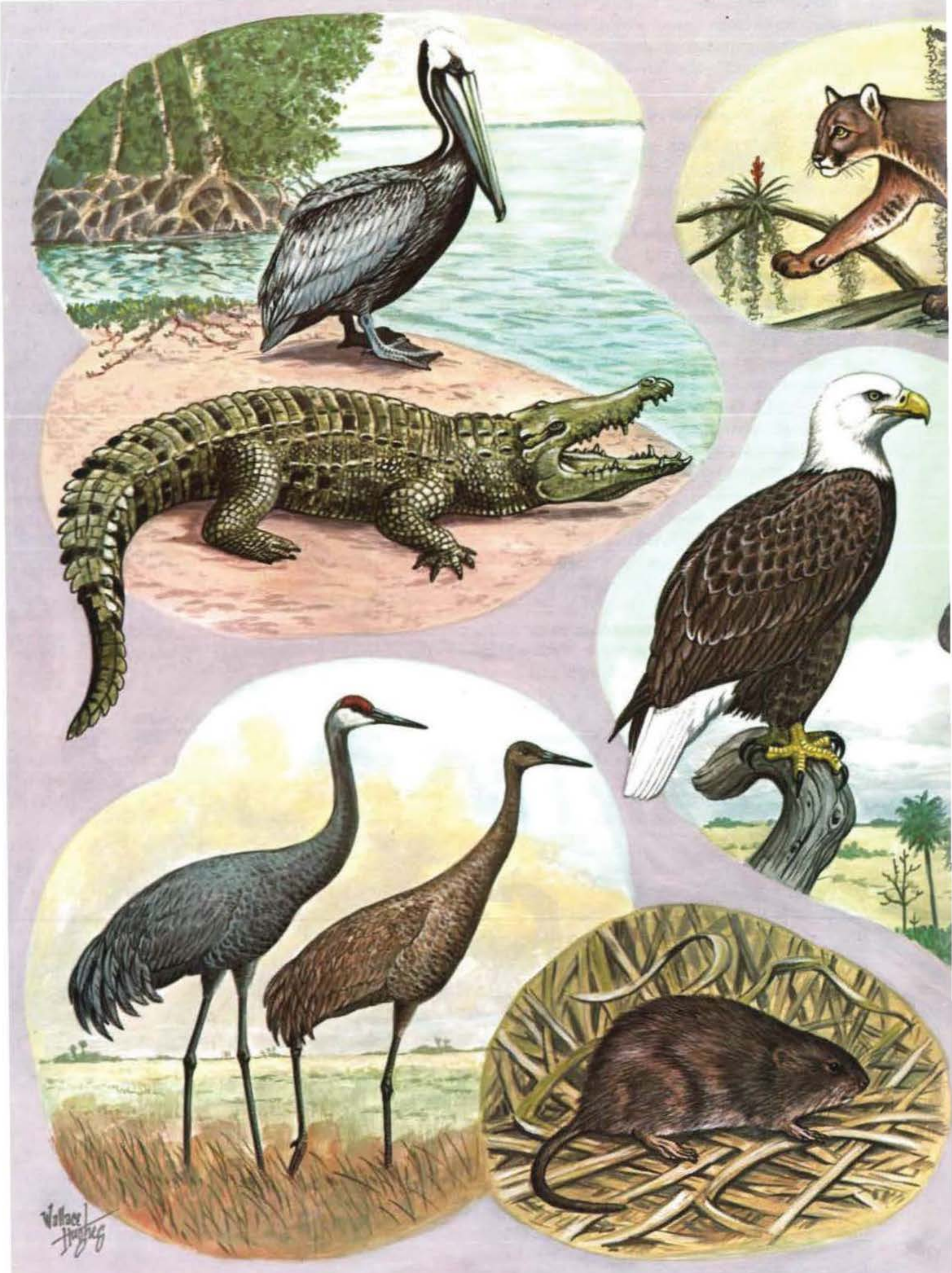
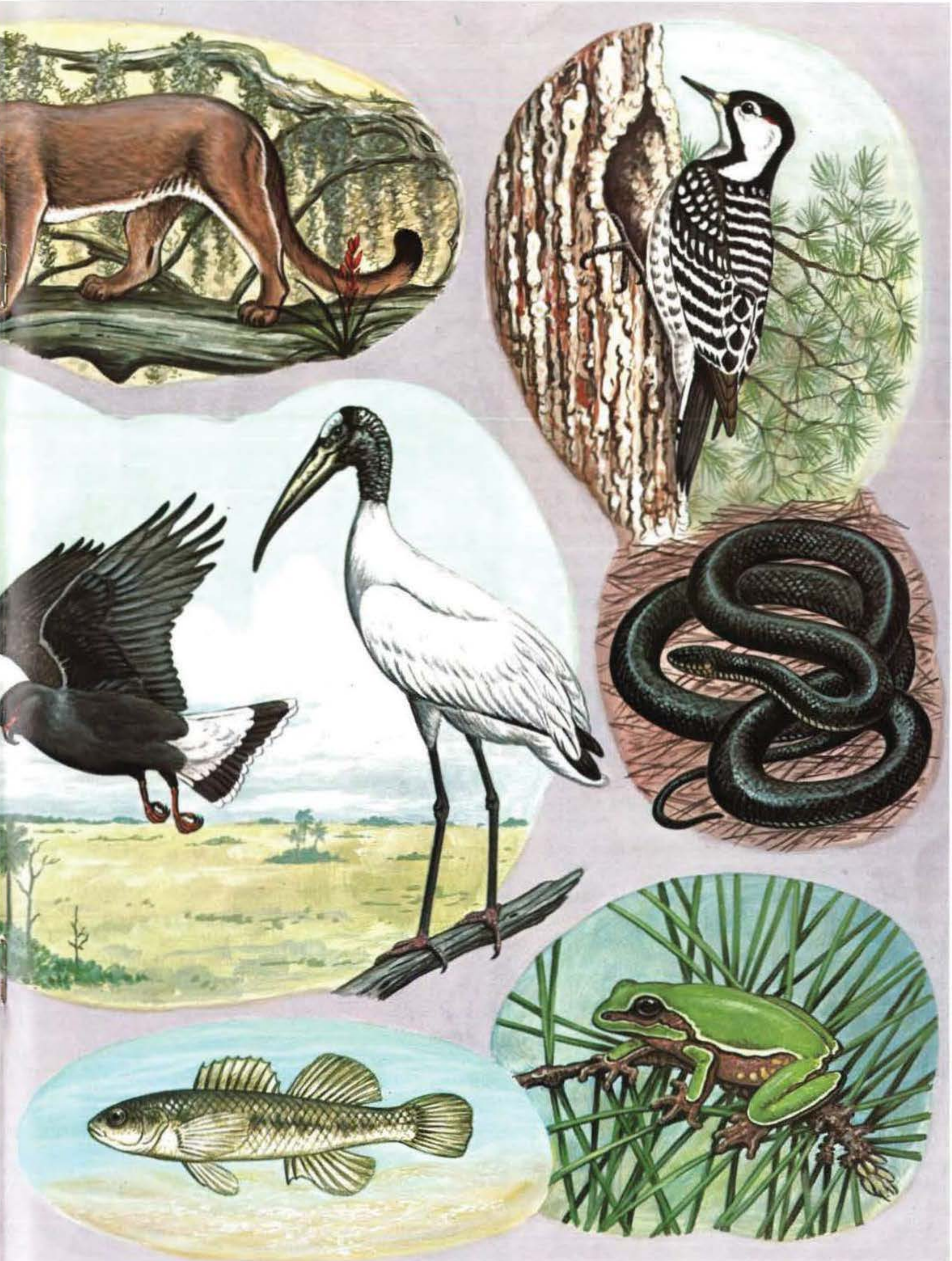
Key to identification of Florida's "Endangered Dozen." See the special full color center spread illustration by Wallace Hughes.




Wallace Hughes



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feet high. It is composed of a mass of tangled vegetation and contains a single room, but always has at least two "doors"—openings into shallow tunnels that lead into the water.

Four to six young rats may be found in the nest at any time of the year, because this species, like most Florida rodents, seems to have several litters each year.

Round-tailed muskrats also construct feeding platforms, where discards from their meals—roots, stems, and crawfish parts—litter the area. Escape tunnels are built in these too, and they have saved many a rat's life. When a barred owl or horned owl swoops overhead, the water rat has only to dive down one of the "hatches" to safety. Otters, minks, and weasels often invade their flimsy homes, and hungry reptiles, like snakes and alligators, take their share of water rats.

The round-tailed muskrat is a valuable link in many food chains. Indiscriminate drainage and the conversion of wetlands for agriculture have reduced the habitat needed for this interesting creature to survive. Few people see this nocturnal rodent, and few care to. Roundtails are not particularly attractive, nor are they well understood. But just the same, wouldn't it be sad to push this member of our wildlife community into extinction when it is within our power to aid it instead?

Red-cockaded Woodpecker

NAMED FOR THE SMALL red ear patch, or cockade, of the adult male, this robin-sized woodpecker's best field marks are the pure white cheeks and the black-and-white "ladder" on its back. The red-cockaded's nasal-toned call notes help locate this wary bird as it continues its incessant search for food—insect larvae (particularly of wood-boring insects), ants, various spiders and caterpillars, and an occasional wild fruit or berry.

This woodpecker avoids man and his activities. It needs large, old pine trees in open stands for its home, and it nests only in those trees with rotting heart wood. Through some unerring instinct the red-cockaded woodpecker detects trees having soft, rotting interiors. Then it drills through solid, living wood into the diseased heart wood and excavates the nest cavity. Three or four eggs are the normal clutch.

The red-cockaded clan are gregarious. As many as 10 nests have been found in a single tree. The woodpeckers will use the same nesting holes each year as long as the gum runs freely from the living pine. But when the tree dies and the gum ceases to flow, the birds abandon that tree and look for another one.

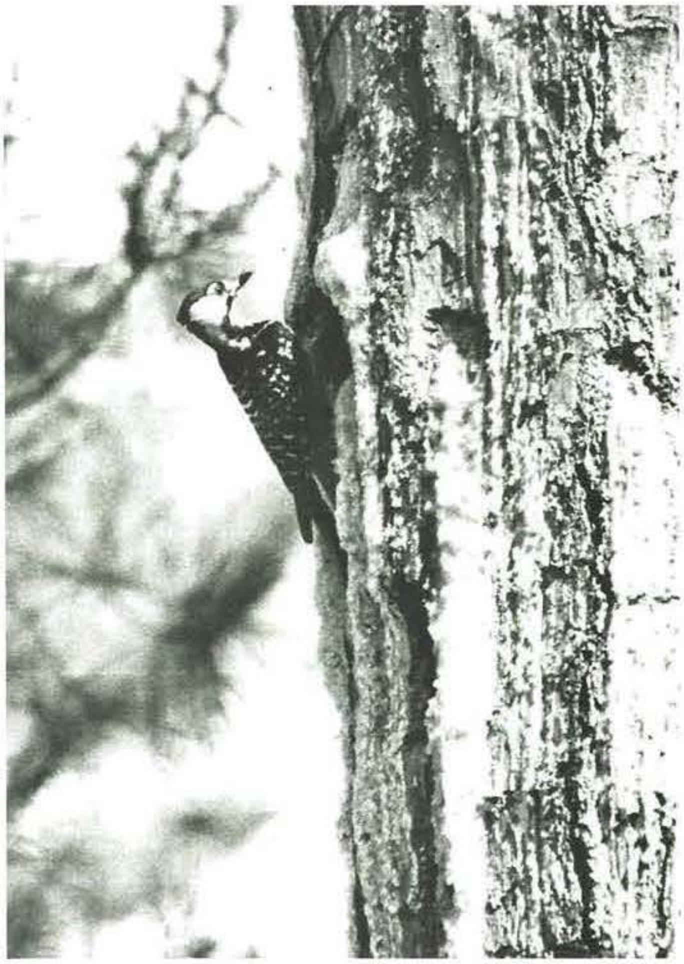


Photo By Wallace Hughes

Look for the red-cockaded woodpecker where big pines grow. Running gum indicates live tree, the only kind these peculiar birds will use for nesting. Dead trees are abandoned.

Few old-stand pine forests are left in Florida, and the rows and rows of planted pines will never take their place. With the increase in forest management, diseased trees are quickly removed, and, of course, planted pines are cropped before they reach the size and maturity required by the endangered red-cockaded woodpecker.

Encouraging landowners to preserve the few remaining tracts of old pines will help the red-cockaded maintain its teetering existence in Florida.

American Crocodile

IN EARLIER TIMES, crocodiles ranged up the Florida east coast to the Daytona Beach area, but now they are restricted to the southern tip of the peninsula and the Keys. Crocodiles are neither beautiful nor friendly. In fact, they appear ugly, vicious, and stupid. Yet they have a significant role in maintaining the environment on which many other wild creatures depend.

Crocodiles inhabit salt bays and mangrove-bordered estuaries but take occasional trips into the open sea. Unrestricted market hunting for both alligators and crocodiles in the early part of this century decimated the crocodile population to the point that it has never recovered. Now, despite complete protection for this huge reptile, the development of coastal areas for human use further reduces its habitat.

Secretive, unpredictable, wide-ranging where it exists, and unsociable, crocodile populations were probably never large, and to survive, those that remain continue to withdraw before the pressures of civilization. Unfortunately, the crocodile does not respond to management like his cousin, the alligator, which thrives in fresh water.

Looking at the crocodile is a way of looking back into the Age of Dinosaurs. These largest and most aggressive of modern reptiles give man a faint idea of what the dominant animals of an earlier era may have looked like in the flesh.

Hopefully, we can continue to share part of the environment with a creature whose ancestors roamed the earth 200 million years ago.

Sandhill Crane

Two RACES OF SANDHILL cranes occur in Florida, the Greater Sandhill, a winter visitor, and the Florida Sandhill, which lives and breeds here. Both are declining because of the conversion of wet prairies to agriculture, the destruction of nesting habitat, and man's invasion of wilderness areas.

Cranes nest after a spectacular courtship ceremony that includes musical trumpetings and an intricate dance. They lay only two eggs, pale brown or olive in color, and usually only one young bird survives. Steady production of young depends on good weather, low predation, and privacy. Cranes are wary birds; they only feel safe in areas where they can see danger approach, hence their preference for wetlands that provide wide open spaces. The wetlands produce their food, too, for which they probe with their long, sharp bills.

The Florida Sandhill's diet is a varied one, including not only succulent roots, bulbs, and grains, but also insects, crawfish, lizards, frogs, and snakes.

The spacious wet prairies and marshes of central Florida—Paynes Prairie, the Kissimmee River valley, the Fisheating Creek flood plain, and portions of the Everglades—still provide the habitat sandhill cranes need for survival. Whether or not these great, graceful, noisy, dancing birds remain with us depends on how closely we guard our remaining wetlands against further encroachment.

Sight and sounds of sandhill cranes are unforgettable. Birds of broad, wet, alluvial prairies and pasturelands, their red forehead is a good mark, and visible from a great distance.

Photo By Lovett Williams

Bald Eagle

TODAY, ONLY FLORIDA and Alaska report even fair bald eagle reproduction. The sinister effects of chemical pesticides and loss of nesting trees are dooming the King of Birds.

Florida eagles usually lay two eggs, in early winter. Incubation, shared by both sexes, takes about 35 days. Care of the slow-developing young requires approximately 6 months, so April or May finds the brown, immature birds making their first flights. Summertime is travel time for most Florida eagles. Even the young of the year have been found 1,600 miles from "home."

Fish make up the bulk of the bald eagle's diet, but he's not above scavenging for road-killed animals, or even in garbage dumps. On more than one occasion eagles have been seen taking food from smaller predaceous birds, like the osprey.

Despite laws against shooting or capturing eagles, each year thoughtless persons kill or maim bald eagles by shooting. This is certainly more dramatic than the gradual poisoning to which they are subjected from a DDT-laden food chain, and habitat destruction—but it is all three in combination that endanger the national emblem of the United States.

Since ancient times, the eagle has been regarded as an emblem of might and courage. Poets have been inspired by the bird's great power of vision, its dignified manner, its vast, soaring flight, and the wild grandeur of its abode. The bald eagle appears on currency, coins, uniform buttons, medals, public documents, stamps, and the Great Seal of the United States. But how much longer will it appear, free and untamed, in the sky?

Everglade Kite

EVERGLADE KITES were once found over most of central and southern Florida's fresh water marshes. As channelization and drainage projects reduced this habitat, the kites became restricted to the Everglades region. Today, with peninsular Florida's

(*Continued on next page*)

Photo By Allan D. Cruickshank

There are several species of kites, but only one Everglade Kite. Precariously balanced on dietary tightwire, it feeds only on apple snails. When snails go, so does this bird.

(Continued from preceding page)

"drought-and-drown" weather patterns, and man's interference with the natural, historical water flow, the remnant population of Everglade kites continues to dwindle.

Kites' nests, of twigs and leafy sticks, are located on bushes and small trees above the marsh. They usually contain two dull white eggs well marked with brown. Like the young of most raptors, baby kites are slow to develop, so they spend considerable time in the nest. A pair of kites raises only one family a year, and if the nests are disturbed in any way the parent birds may abandon the area.

To their disadvantage, kites are overspecialized birds of prey. They feed almost exclusively on the apple snail, and the availability of snails is directly dependent upon the number and size of the fresh water marshes that support them. The quality of the water is also important. Restricting the amount of habitat available to Everglade kites necessarily limits the number of breeding pairs because they are highly territorial.

Fires, heavy rainfall, and natural predation also make inroads into the Everglade kite population. And occasionally, an insensitive or uncaring person breaks federal and state laws by killing one of these rare and truly magnificent birds.

Kites represent a real challenge to wildlife conservationists, for here is an animal that evolution may have condemned to extinction, and man has helped along. The question now is whether Floridians will share with this creature enough space to allow for its continued existence.

Summary

MANY MORE SPECIES of Florida wildlife are rare or endangered and fully protected by law. Included are the Florida weasel, Everglades mink, Key Largo wood rat, Ivory-billed woodpecker, dusky seaside sparrow, Cape Sable sparrow, great white heron, reddish egret, roseate spoonbill, mangrove cuckoo, and the Florida scrub jay.

There are probably other endangered species that have not been listed because they have not been studied enough to know how many there are or with what problems they are faced.

Florida's private and public agencies are committed to make every reasonable effort to help endangered species remain wild and free on Spaceship Earth. These efforts are aimed at providing for the animals' basic needs and offering protection under state and federal laws.

The Florida Game and Fresh Water Fish Commission, the Department of Natural Resources, and the Division of Forestry of the Department of Agriculture provide protection and habitat management that favor certain animal species. The Department of Pollution Control and the Trustees of the Internal Improvement Trust Fund are also actively involved in protecting Florida's wildlife resources and the habitat on which endangered species depend.

Sure Florida is changing. Everything and everybody is constantly undergoing change. But if you have looked around, you'll agree that our wildlife is indeed trying to tell us something. Are we willing to listen? If we have the will, knowledge, and prudence to act promptly and vigorously to help cure earth's environmental ills, the trends we see can be reversed. Wildlife that is threatened by pollution, the destruction of essential habitat, and wholesale degradation of the environment for temporary gain, can be saved.

Man must develop the intellectual humility that allows him—compels him—to share the land, water, and air with a myriad of other creatures that are important to his own survival. By saving wildlife, man can save himself. ●

For copies of this article, and more information on Wildlife Week, contact C. Richard Tillis, Environmental Education Consultant, Florida Department of Education, 377 Knott Building, Tallahassee, Florida 32304.

Nutria–Undesirable Alien

By ROBERT NORDIN

IT WAS THE POET Robert Burns who so adequately put certain of the frustrations of mankind into words. In his poem, "To A Mouse," he penned the immortal lines:

> "But, Mousie, thou art no thy lane,
> in proving foresight may be in vain:
> The best-laid schemes o' mice an' men,
> Gang aft a-gley,
> An' lea's us naught but grief an' pain,
> For promised joy!"

In retrospect, which is always the point of greatest wisdom, were the grand schemes of man that have ended in failure piled one on top another, the end result would make the fabled Tower of Babel look like the work of pikers.

Recently, another example of an idea that didn't make it came to light in Hillsborough County. There, on a number of dairy farms, large rodent-type animals were reported thriving in abundance in low, marshy areas.

An investigation of the situation has revealed a plethora of coypus, commonly called nutria, and this newest discovery from Pandora's box has created just another headache for officials concerned with the importation and liberation of non-native wildlife.

The coypu, *Myocaster coypu,* also called the "swamp beaver" and "South American beaver," is a native of the temperate regions of South America, and is really not a beaver at all. It has the appearance of an enormous rat. The term "nutria" comes from the name given its fur, and it was its fur, or a "best-laid scheme" for the production and use of it, that began the problem now being experienced.

Coypus are well known in South America and Europe, where their fur is used extensively in the clothing industry. In fact, in the late 19th century there was such a high demand for nutria that the animal was nearly driven to extinction in its wild state. But by 1922, the coypu was being bred in captivity on its native continent, and soon the idea spread to other countries, including this one.

High prices were paid for breeding pairs. A number of less-than-honest entrepreneurs made a small bundle selling some pretty ragged looking nutrias to some gullible and unsuspecting hopefuls. But for the most part, the ranch-raised coypus provided pelts of inferior quality, and the ventures of many "gang aft a-gley."

Then the problem became what to do with the unwanted coypus then in captivity. The answer seemed obvious, and simple: Many disenchanted nutria ranchers turned their stock loose to fend for itself in the wild. Little did they know, or probably care, that one day their prolific disappointments would be creating another unanswered question of what to do with imported exotics when they cease to be novelties or outlive their usefulness.

The nutria is neither all bad nor all good, but its penchant for having large families at frequent intervals creates a situation that makes it not altogether harmless.

Measuring in excess of 18 inches in length and growing to a weight of up to 25 pounds, the nutria requires a goodly amount of food to satisfy its appetite. And while it is strictly herbivorous, its diet can and frequently does include cultivated root crops.

Three litters of up to five young a year can make the nutria population spread in favorable habitat faster than a coastal housing development. Problems and damage to crops and to valuable land can also result when these animals decide home should be a dike or the bank of an irrigation ditch.

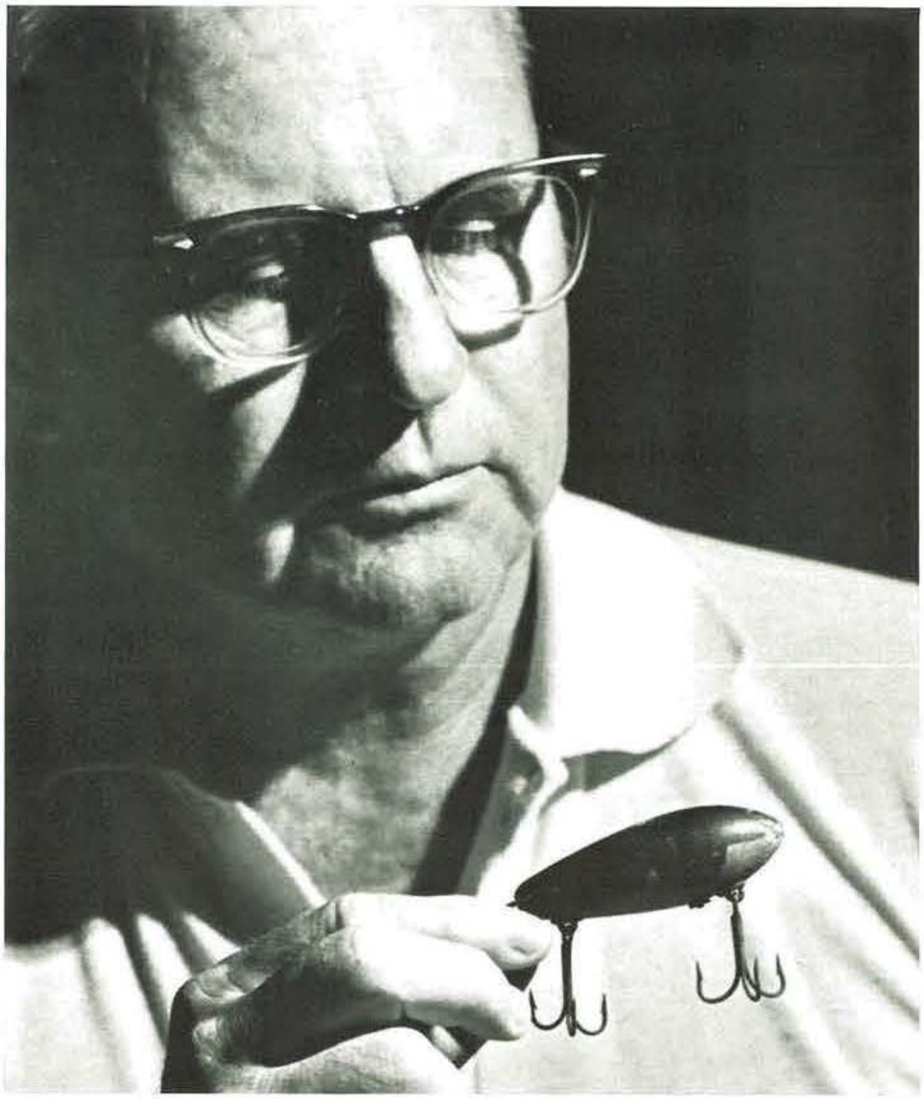
In habits the coypu resembles the water vole. It is active by day and found in its natural state around rivers, ponds, lakes, and marshes. The female coypu has evolved a peculiar feeding system for her young. Her four or five pairs of teats are placed by Mother Nature high up on her flanks, almost on her back. With the lunch counter so conveniently placed, the young can suckle while mother swims. Baby coypus, like guinea pigs, are active from birth, and grow very rapidly.

The coypu has reddish-brown fur, a long, round-tipped tail, partially webbed hind toes, short, round ears, and smooth, broad, orange-colored front teeth. Strangely, its fur is considered one of the finest that can be obtained from an animal bred in a temperate climate. But while prime nutria pelts are still considered of some commercial value, they require such expensive processing as to almost negate the investment of time, effort, and money.

Now, because of dreams turned sour, certain parts of Florida are experiencing a dilemma that has no ready answer.

One possibility that has been voiced is that alligators be placed in ponds, lakes, and streams where the nutria have become too abundant. But that answer would certainly create some questions of its own. How will we control the expanding population of this unwelcome guest? The answer is still around the corner. But again Bobby Burns probably said it best:

> "Still thou are blest, compared wi' me!
> The present only toucheth thee:
> But, ooh! I backward cast my e'e,
> On prospects drear!
> An' forward, though I canna see,
> I guess and fear."



the good old days

an occasional backward glance can be fun—and may brighten future prospects

By **CHARLES WATERMAN**

His battle-scarred Creek Chub Crawdad from the 1920's is admired by the author, left. It was his first casting plug—rubber legs have rotted away. He tries fly fishing the St. Johns River, right, "way back" in 1953.

When fishing writers get about my age, going on 60, they begin to write about the good old days, or the bad old days, or whatever kind of old days they recall. Part of this is a growing tendency to look backward, and part of it is a growing laziness that keeps them from getting out and finding new material to write about.

There is also a boring tendency to relate irrelevant stories of fishing and hunting trips, largely for the entertainment of the narrator. I have all of these reasons for writing this little account of fifty-some years of fishing, but I shall try to stick in enough about the impersonal developments to keep you with me.

Since no one has very good records of the development of fishing in the past 50 years, I am pretty safe in making broad statements. Maybe other fishermen saw it differently, but they can't prove anything either.

I can summarize by saying that fishermen and their tackle are both much better than they were a few years back, that there are more black bass now than there ever were before, that stream fishing is deteriorating, that fishermen have more interest than ever in ecology, and that the majority of anglers are perhaps less interested in sporting methods than they used to be.

I won't apologize for the fact that I haven't fished Florida steadily except for the past 20 years. I fished here clear back in 1943 but was then away for quite a while. The general trends seem to have been about the same the country over.

Calvin Coolidge and I both fished some in the early 'twenties, and I got past the bait-only stage then. In those days the outdoor magazines were full of talk about sportsmanship and a lot of pleasant sentimentality about the outdoors. There wasn't much on ecology, but considerable on conservation in general. The fishing regulations weren't too sensible, but fishery biology just hadn't come very far. Bait casting reels didn't often have level-wind, and I think there was a relatively larger percentage of fly fishermen among bass anglers. Fly tackle was the oldest sporting gear, and it was an easy changeover from rainbow trout and salmon to both smallmouth and largemouth bass.

Bait casting line was made of silk and was dried after every use. Crochet thread, I found, was almost as good and much cheaper. Fly line was silk too, and it required frequent doping to float. Someone must have been using it, but I never heard of fly line that was intended to sink, until after World War II. Flies for both bass and trout were very good and skillfully tied.

For that matter, conventional surface and underwater plugs were good too. They had some excellent finishes, and there were some fine plastic things long before World War II. The first plug I ever owned was a Creek Chub Crawdad, which I still have, and it had rubber legs, long since rotted away. The Shannon Twin Spinner was a top underwater bait, not too far in design from the modern spinner baits, and the Al Foss Wigglers caught plenty of bass.

The first sizable bass I ever saw caught was from a southeastern Kansas creek. Three of us were fishing there on a moonless night, slightly handicapped by being a little afraid of the dark. A lad named Don Buck hooked the fish and broke his bamboo rod on it—we didn't believe in the delicate touch—after which the three of us grabbed the line and ran off into the brush, dragging the bass after us. The need for three haulers was very obvious to anglers of our age.

Don was using a Shimmy Wiggler, and I never had much faith in my Oriental Wiggler after that.

The smallmouth rivers of Missouri and Arkansas were wonderful during the 'twenties and 'thirties, and the organized float trip of from half a day to two weeks was a national attraction for those who could afford it. At first, the boats were hauled back to the starting point by horse or rail. Trucks took over later. Most of that fishing was with plugging tackle, although there was considerable fly fishing too. I couldn't afford a real guide, but I remember getting a kid to run the boat for 50 cents, and two of us would chip in for the haulback on a half-day trip.

My parents took a dim view of this, as most farm families considered fishing a wasteful pastime and believed all anglers were loafers.

When I later talked to veteran Florida fishermen, they told me of drifting down the slower rivers and rowing the long way back.

On some of those Ozark trips we would paddle, pole, and drag a big wooden John boat upstream for half a day to get in an hour's drifting. It was about that time that the first larger impoundments were built. Fishing was wonderful in these for a few years and would then die off. There were no good techniques for fishing the deep water. It was largely a matter of working the shallows when the bass were up there. The rivers were more consistent.

In the early 'thirties when I first started writing an outdoor column—I was a reporter at $15 a week—I really got started on fly fishing. I recall one real triumph when I went to the Lake of the Ozarks in Missouri, and caught bass on bugs late in the evening at a season when no one else was doing much. Bait casting tackle was getting better, and it now seems that fly fishing had been fading on the bass waters. There was some fine bugging, however, on small, weedy railroad ponds.

Much of southeastern Kansas had been ripped up by strip mines, and we caught some bass along

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the edges of the old ones, but the modern bottom bumpers are doing much better now than we ever did with surface and near-surface lures.

Nearly all of the good fly rods were bamboo then, but most plugging rods were either tubular or solid steel. I never owned a bamboo plugging rod in my life, and the ones I saw then were generally too stiff for good casting. I know now that more advanced casters were using bamboo, but I just never ran into them.

Guides were glass or agate, and I never used a level-wind reel until much later, feeling it was an instrument for beginners.

When the big impoundments came during the war and afterward, much of the river fishing was ended. The impoundments brought more bass and a new breed of efficient fishermen. Some of the big western dams were across trout and salmon water, and they sneaked up on the trout fishermen, who didn't know what to do about it.

I was working for a newspaper in the San Francisco area and got in on some wild bass fishing on the new Lake Shasta, near Redding, Calif. A resort operator, John Alford, got me to help show his guides something about bass fishing. I had nothing new to offer but could catch plenty of bass during the early days of the lake by working the shallow coves, all freshly flooded and full of green trees.

Along about that time, in the late 'forties and early 'fifties, school bass fishing began to appear on the big impoundments, and I knew nothing at all about that. School fishing had been a mainstay in Florida, but was unknown farther north until the impoundments came along. I'd never heard of white or yellow bass.

Spinning tackle came along right after World War II, and there was a time when it appeared no other method would survive. My first efforts with monofilament were tangled disasters, and I thought that was a short-lived fad.

A few individuals had caught big salt water fish on flies clear back around the turn of the century, but no one had paid much attention. During the war I caught some snook at Fort Pierce on bass plugging tackle and decided that was something special, but I didn't get back at it for a decade. Monofilament line and the small jig revolutionized light tackle casting in salt water after the war, and the artists of the weighted bucktail made the rest of us look silly. The jig moved into the deep fresh water impoundments under other names. People who didn't know what "jig" meant cleaned up with "Doll Flies."

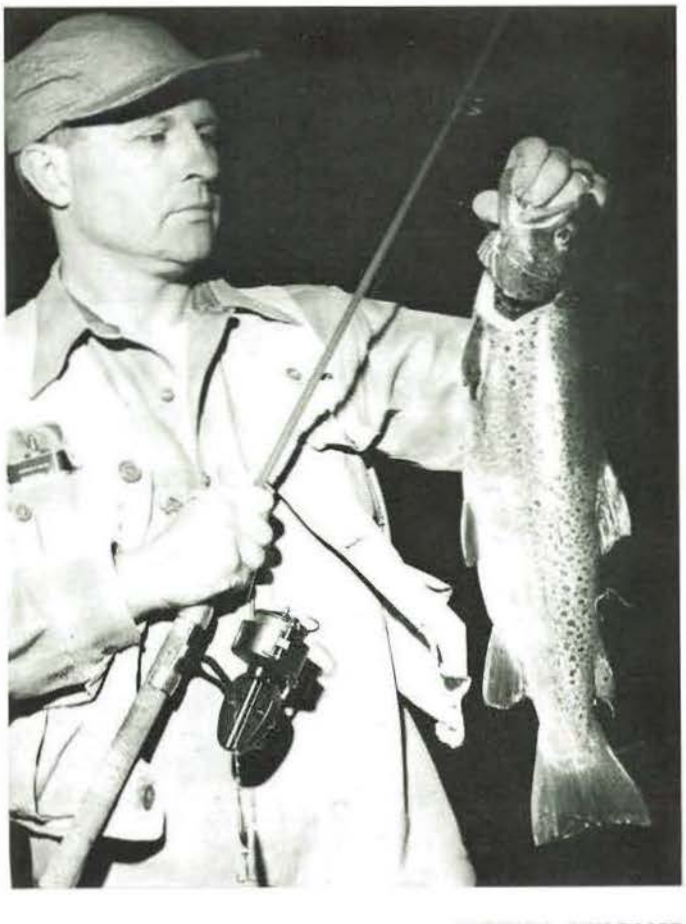
Buck Perry's Spoonplug was revolutionary, more so than I realized at the time. It went with a system of fast bottom trolling with heavy line and revealed the fact that bass weren't always along the shorelines. It still works, of course, and it was the forerunner of the depth finder used for modern bass fishing.

Perry's idea was that the Spoonplug would locate offshore concentrations of bass. After you located them you could use another method if you preferred. Then, when the fathometer was reduced in size and increased in efficiency, fresh water anglers saw that it would find fish in lakes as well as offshore and "structure fishing" was a reality. Users of that electronic gadget now catch more bass than the old-fashioned methods ever could. Some of us sneered and said we didn't want the offshore bass, but we soon got our comeuppance.

The plastic worm got a slow start. There were attempts at such things 40 years ago. Surf casters had used eelskins with success for a long time, but the first rubber and plastic imitations for bass didn't go over very well, largely because no one knew how to use them. When the porkrind eels caught fish the plastic worms weren't far behind.

Only a few years back, plastic worms were used on very light spinning rods in most cases, and hook-setting was a complex and erratic business. It was a light lure, and most systems involved sliding sinkers and long waits between the first nibble and the time we thought the bass "really had it." Some of us never did get the thing down right. Half the time we were playing fish that weren't hooked at all but were just reluctant to let go. The tackle just wasn't suitable.

The modern worming rod is quite stiff and gen-



Fishing isn't always easy, but nearly always fun. The author labors to get at an Arkansas smallmouth stream, right, he fished as a boy. The fine brown trout, lower left, was landed from Wyoming waters some 20 years ago when spinning gear began "sweeping the country."

erally uses a freespooling casting reel and fairly heavy monofilament. Extremely long casts are unnecessary, and once you get the hang of the stiff stick, it works very well. Many experts cast with both hands. Along with the stiffer rods came the policy of setting the hook promptly. Most of the experts drop the worm back only a few inches when they feel the take, and then set the hook within a second or so.

Coupled with the depth finder, the new worming outfits are about as efficient as bass tackle can get.

Casting rods have gotten longer. A 5-footer was long when I was a kid, and many of them were only 3 feet. With heavy plugs, most casters didn't really use much rod action. The operation was described as "throwing a mudball off the end of a sharp stick."

The reels had heavy spools that were inefficient with a snappy release. Some of my early backlashes were monumental. Then the spools got lighter—aluminum or plastic—and the freespool outfit arrived.

Shoreline casting places a premium on accuracy. Although the new bass fishermen are more scientific than the bank rakers ever were, they are less interested in pinpoint throwing than in what the bait does when it gets down there. Many of them are also shoreline experts, but competitive casting is a hard game to keep alive.

I have always felt that the shoreline casting was what kept up the interest in skish and other tournament events. Twenty years ago, you'd often see casting rings or targets in use on water or in yards. Now, most people think they are forgotten hula hoops when they come on them in a pile of junk.

Fly fishing is enjoying a mild boom, but suffers because there are easier methods of fishing. It is still the top method in trout waters of the North, especially in the Northwest. I now believe it has more prominence in the tournaments. Fly casting championships seem to attract more attention than bait casting, and there is some interest in distance fly casting.

Distance bait casting suffered because it used equipment impractical for fishing and placed a premium on engineering. Skish was an attempt at keeping the competition confined to practical fishing equipment. These sports are still alive, but have a limited following, despite much hard work by a few dedicated individuals. Even the spinning events didn't increase the entries a great deal.

The fresh water heroes of the South are the winners of organized bass tournaments. In the West, they are likely to be steelheaders who use fly tackle. Really long distance fly casting is dependent upon light running line (usually monofilament) behind a heavy shooting head. The system was developed by steelheaders, who need to get distance when wading large rivers, and was perfected by tournament casters, frequently the same people.

Fishing boats, even for black bass, are bigger and faster. The bass boat gets much of its efficiency through the electric motor, and most such craft have no oars at all. This is a development of recent years and is showing up more and more on salt water flats. For that matter, the bass boat itself is good for much salt water angling.

Now, there is a philosophy of fishing that's a little hard to explain. With all the talk of ecology

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and conservation it would seem logical to expect the size of the catch to be less important as the years go by. It doesn't seem to work that way. I hear guides and tackle salesmen complain that more and more fishermen want more and more fish. One tackle man attributes this to a growing spirit of competition. The publicity for fishing contests may have some effect, but I doubt if it's very much.

There are more fishermen today, but there are few places in southern fresh waters where hook and line angling is hard on the fish population. Pressure may make fishing tough, but the fish are still there in most cases.

I now believe there is more effect from hook and line fishing in some inshore salt water, probably a matter of too many boats. Those fish have lots of ocean to swim in and they can leave if they want to.

We've ruined some fishing, and we've improved some. The black bass is all over the country now as a result of plantings of many years ago. The salt water striper is making good in fresh water. The Pacific salmons have been spectacularly successful in the Great Lakes, probably the most publicized fish of the century.

Where Southern rivers have been dammed and cold water has driven off the downstream bass, the planted rainbow and brown trout have been substitutes—sometimes.

We're beginning to understand the big reservoirs, and things may be even better there in the future. The principles of the controlled drawdown of artificial lakes will help in many impoundments, especially where pollution is a problem. And far out in the Gulf of Mexico, new fishing grounds are being located.

It's in the rivers, large and small, that we have our worst problems. We know now that channelization hurts. Cold water streams of the North have been reduced alarmingly by the same kinds of dams that brought new fishing to Southern areas.

Highway construction and development have been fatal to many trout streams, and it is only recently that we began to see just how complex a trout stream is.

The value of fresh water marshes and brackish water estuaries was slow to be realized. Only a few years ago, the word "swamp" meant useless mud and cloudy water to most of us.

But an old gaffer is a poor judge. He sniffles over the loss of the kinds of fishing he enjoyed long ago. He is slow to appreciate the new ways and may regret the replacement of the waterlogged wooden skiff by the sleek bass boat.

There's one thing sure, though: We aren't going back. ●

These hefty largemouths were boated by the author, left, shortly after his moving to Florida, and casting champion, Bob Budd, of Jeffersonville, Indiana. Today, the sport fisherman seems to compete more for larger size fish catches, but hook and line angling rarely hurts fish populations, anyway.

Ammo Reloads

reloading is big among shooting sportsmen—but annoyances can crop up now and then when shooting the best of reloads

By **EDMUND McLAURIN**

FEW THINGS are more aggravating than a car that won't start, a can opener that won't work, or an autoloading firearm that jams. Successful mechanical operation of an autoloader is dependent upon crisp, positive extraction and ejection of each fired cartridge case. Otherwise, jams are almost certain to occur.

To make sure this doesn't happen, manufacturers of autoloading rifles usually see that actions have plenty of zip. Consequently, most autoloaders are hard on cases. Quite often, fired and extracted center fire brass will show deep scratches and nicks. Such empties are not good candidates for reloading. Only those cases in good condition should be "recycled."

Despite forceful opening and closing of most autoloading actions, these, and some of the lever- and slide-actions, often lack the strong camming motion needed to properly chamber a reloaded cartridge and lock the breechbolt tightly. Besides the Remington Models 740 and 742 autoloaders, the lever-action Savage Model 99 and Winchester Model 88, and the Remington Model 760 slide-action, are apt to be finicky about handling reloads that are not almost perfect.

Although I reload several different calibers for practice shooting with autoloading big game rifles, I do not use reloads when hunting. I prefer fresh, factory-loaded ammunition when I'm in the deer woods.

It isn't that I lack confidence in my reloading for the semi-automatics. I just happen to know from long experience that use of reloaded ammunition in an autoloader is fraught with small unpredictable factors that can cause functional failure. Such include the occasional bullet that isn't tight enough in the case, and possible partial extraction of a fired case for no obvious reason.

These field annoyances can occur despite extreme reloading precautions and careful visual inspection and test feeding of reloaded cartridges through the rifle action (to see that they chamber and extract easily) before taking them afield. I prefer not to take a chance on a malfunction at a critical moment; shots at big game don't come often enough to waste.

In reloading ammunition for use in an autoloader, follow three cardinal rules to obtain the best results, even if you're only going to use them for practice firing: (1) Full length resize all cases; (2) Load to, but do not exceed, factory velocity and pressure level; and (3) Use medium- to fast-burning powders, such as 3031, 4895, and 4064 powders in weighed quantities specified in standard reloading manuals.

Cases full length resized to within trade standard tolerance theoretically can be reloaded for trouble-free use in any rifle of the same caliber—not just for the particular rifle in which they were last fired. However, things don't always prove out that way. There are too many potential variables, in rifles as well as in identical looking rounds of ammunition. But full length resizing is a major step in eliminating, or at least minimizing, functional troubles.

Certain reloading practices, if adopted, further contribute to my successful reloading of center fire ammunition for use in autoloading, lever-action, and pump-action big game rifles.

I don't mix fired cases of the same caliber that accumulate from the firing of several rifles. For a particular rifle, I reload only cases originally fired in that one rifle, whether I elect to full length resize or only to neck resize when reloading.

Another aid in reloading for the three types of actions under discussion is to use a special set of reloading dies, custom made for use with *one* rifle and purposely patterned a little tight of micrometer measurement.

RCBS, Oroville, California 95965, makes the dies, based on several one-time-fired factory ammunition empties sent to the firm by the customer. These special dies pay for themselves in results achieved.

It is the repeated "working" done to a brass cartridge case that cuts its safe use life, particularly if the neck or body portion of the reloading die is a bit too small, with resultant maximum "working" of the brass during case resizing operation. When reloading for an autoloader, lever or slide-action rifle, I don't expect, nor try to get, the case life I usually get from cases reloaded for use in bolt-actions. I know that the brass in each full length resized case literally moves like a wave under the tight fit and pressure of the full length resizing die.

Full length resizing of .300 Savage caliber cartridge cases is recommended when reloads are intended for use in anything other than a bolt-action. With this caliber, dies must be carefully

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adjusted to avoid the possibility of setting the case shoulder back during reloading operations.

A cheap source of supply for .300 Savage caliber cases are once-fired .30-06 or .308 caliber cases in good condition. These can easily be shortened and resized to .300 Savage caliber, but necks generally require an added reaming operation because of the usual thicker neck brass of the .30-06 and .308 cases.

Neck thickness of the .308 Savage caliber cases die-formed from .30-06 or .308 caliber cases must be reduced to reloading manual dimension, or caliber measurements described and illustrated in CARTRIDGES OF THE WORLD. Failure to do so can result in a dangerous pressure condition.

This is one of the many little things that have to be watched; things that make home reloading interesting.

The .35 Remington caliber is another caliber of technical properties.

A .35 Remington caliber cartridge case embodies a shoulder that is quite shallow. The forceful slamming action of a Remington Model 8 autoloader's breechblock can cause slight shoulder setback and undesirable headspace. Such compressed cases re-form to chamber fit on firing, but there is stretching and fatiguing of the case's brass. Full length resizing will, of course, further contribute to case stress and metal fatigue by once again re-forming the stretched brass close to factory dimensions.

Although I reload for bolt- and slide-actions of .35 Remington caliber chambering, I do not reload that caliber for use in an autoloader.

Except for economical practice shooting, I see no particular benefit from reloading the .35 Remington caliber, using different bullet weights. In my opinion, the 200-grain bullet is just about perfect for the power and reliable killing range of the .35 Remington caliber.

You, too, can reload successfully for autoloaders, levers and slide actions. It's simply a matter of using the right approach, and giving attention to the little technical factors that make a big difference in final performance.

HUNTING SEASONS have a way of adding little unforgettable incidents to one's treasure of outdoor living experiences.

I recall with clarity the day, now long past, when I experienced my first sighting of a Florida panther, in a remote section of the then sparsely populated Ocala National Forest; the morning I casually walked through a narrow opening in Big Cypress Swamp brush into an assembly of five large water moccasins; the cold November day I shot a really big Florida buck, after putting in nine full days of hard hunting without seeing anything except does; the time I shot the head off a fine turkey gobbler that chanced to feed near a tree stand I occupied with ready deer rifle. There were many other memorable events, each different in its own way.

Recently, while quail hunting in the St. Cloud area with my cousin, Dr. Wilbur McL. Davis, of Winter Park, I added another memorable experience. So did he.

As we were strapping on our snakeproof leggings alongside Wilbur's Jeep, I chanced to note a circling flock of gray birds. They were sandhill cranes, all flying low enough for positive identification. The way they flew with necks stretched straight made the birds readily recognizable as cranes.

What made the incident unusual was their congregated number. There were not less than 48 nor more than 52 birds! We each made several separate head counts while the cranes were circling almost overhead. Their circular flight pattern at the time, and their maintained spacing within their adopted circle, made repeated head counts fairly easy and closely accurate.

Never in all our years of Florida hunting and fishing had either of us seen so many sandhill cranes together in flight! Always before our sightings had been of single birds or small groups.

Wilbur commented that we were seeing an in-flight congregation of sandhill cranes which neither of us might ever see again.

The cry of a sandhill crane is loud and resonant. Once heard, it is usually remembered, for there is a distinct tremolo effect combined with volume. Ornithologists believe the strong volume of the cry of an adult bird is due to the bird's elongated windpipe, that actually is coiled and accommodated in the keel section of the breastbone. The sounded cry has all the wildness of untamed Nature.

COMFORTABLE HUNTING BOOTS or shoes contribute immeasurably to the pleasure and success of a hunting season. Experienced hunters rank them in importance with firearm and ammunition used.

What kind of hunting season have your feet had?

Although annoying, and sometimes a downright handicap to many hunters, foot troubles afield aren't among my worries. My footgear is comfortable, whether I wear boots or low-cut shoes.

On numerous occasions, companions have commented about my comfortable-appearing hunting boots and shoes and how I never seem to have the various field foot troubles that intermittently plague them, even when they wear footgear of same brand or of comparable quality.

Frankly, there is influencing background story.

To begin with, I unhurriedly choose new hunting boots or shoes for perfect fit and performance, and "break them in" long before they are worn afield the first time.

Initially, the boots or shoes must not only be of correct size in a well-known brand, but also made on a shoe last that matches the shape of my feet.

When tried on with hunting socks of customarily worn thickness, the boots or shoes must instantly reflect correct fit and promised comfort.

I am acutely conscious of boot or shoe weight, realizing that if a pair of boots or shoes together weigh 1 pound more than is necessary for safety, comfort, and durability, I will actually be lifting a total of an extra ton of weight every two miles, figuring a minimum of 2,000 steps to each mile walked.

Medium height Red Wing "Irish Setter" boots in my size weigh 1 pound 12 ounces each. The Chippewa No. 5007 boots in same size, width and overall height, and of similar all-leather upper and rubber sole construction, weigh 1 pound 9½ ounces each. (I like both.)

In the combination-type hunting boot that features leather uppers attached to an all-rubber foot section, the Converse "No Bite" boots prove a bit lighter (in my size and width) than identical overall height L. L. Bean boots.

The reason I know is because I have taken time to investigate and record the comparative weights of the various top quality boot models in my size. When brand name models are discontinued or given changed design, so, too, are my recorded figures. This makes for a more practical and direct approach when making replacements.

My secret of obtaining suppleness in boot leathers, while not sacrificing all-important support from the leather sections, is use of a product known as "Snowshoe Silicone Leather Dressing," ordered from L. L. Bean, Inc., Freeport, Maine 04032.

The product is a soft paste type dressing, blended of natural waxes and silicone. It penetrates deep, and makes leather supple as well as surprisingly waterproof. I like "Snowshoe" better than formerly used anhydrous lanolin, neat's-foot oil, Viscol, Lexol and other advertised rivals. A notable quality is that the preparation does not injure rubber.

Another reason for my unmarred foot comfort afield is the care given hunting boots and shoes between periods of use.

When the hunting season ends, I don't toss hunting boots into a closet and forget them. Instead, time is taken to remove the laces, brush all seams and crevices with an old toothbrush, and wipe surfaces free of dirt. "Snowshoe" is then liberally applied to the leather sections, which are rubbed and kneaded until the dressing is completely absorbed.

Periodically (because our Florida climate is so damp and mold a problem in caring for such outdoor items as boots, duffle bags and tents), I inspect the condition of my hunting boots, and usually rub on a little fresh "Snowshoe" dressing.

A lot of trouble? Not much, in true analysis—and it sure means later foot comfort. Try it and see. ●

Question Box

Question: The article on deer, in the December 1972 issue, referred to four subspecies of the Florida whitetail, and named the key deer as one. What are the other three?

Answer: The four recognized subspecies, or geographic races, of whitetails in Florida are the Virginia white-tailed deer, *Odocoileus virginianus virginianus* (Zimmerman); the Florida coastal white-tailed deer, *O. v. osceola* (Bangs); the Florida white-tailed deer, *O. v. seminolus* (Goldman and Kellog); and the Florida key white-tailed deer, *O. v. clavium* (Barbour and Allen).

Question: What are the maximum penalties for violating the various Florida statutes and rules and regulations normally enforced by wildlife officers of the Game & Fresh Water Fish Commission?

Answer: Most such offenses are classed as misdemeanors, for which Florida Statutes prescribe the following punishment: Upon conviction for a misdemeanor of the first degree, a term of imprisonment in the county jail not exceeding 1 year and/or a fine up to $1,000; in second degree misdemeanor cases, it is 60 days and/or $500, maximum, unless higher penalties for specific offenses have been designated by the legislature. (Example: Sale or possession for sale of alligator products, such as handbags, wallets, and shoes, in Florida is a second degree misdemeanor that may be punished as provided above, "or by a fine of up to $2,000, or both," according to Section 372.6645 (4), Florida Statutes.)

Question: Are there any required items of equipment that must be carried on small boats, even rowboats?

Answer: Yes. By law, every boat must carry (1) one approved lifesaving device, in good and serviceable condition, for each person aboard; (2) one oar or paddle; (3) one anchor and line of appropriate size and length; and, if underway between sunset and sunrise, (4) a lighting device capable of shining a white light all around the horizon (a flashlight suffices). This light must be shown—even by rowboat operators—in time to avoid collision.

Question: Is it a fact that the term "gun" as used in Game Commission rules and regulations includes slingshots?

Answer: Correct. It also includes bow and arrow and crossbow. Rule 16E-3 defines *gun* as "Shotgun,

(Continued on next page)

(*Continued from preceding page*)

rifle, pistol, revolver, air gun, gas gun, blow gun, or any device mechanically propelling an arrow, spear, or other projectile. . . ." Hence, the phrase, "gun and light at night prohibited for taking or attempting to take game," literally means leave off the weapons other than firearms, too.

Question: Many salt water fishermen sell their sport catches at the dock. Does any law prohibit the sale of fresh water fish?

Answer: You bet. No fresh water game fish may be sold, bought, exchanged or bartered for goods or services, or transported for sale. It is even unlawful to *offer* them for sale! (The tilapia, a non-native species, is also included under this law, except that in specified waters they are harvested commercially under contract with the Commission.)

Question: In which counties are the most hunting licenses purchased?

Answer: The "top 10" for the 1971-72 season were Duval, with $128,129.00 in total sales; Dade, with $92,611.25; Hillsborough, with $89,911.25; Orange, with $71,596.50; Polk, with $67,821.75; Escambia, with $65,037.25; Leon, with $60,749.00; Broward, with $56,632.50; Pinellas, with $49,936.75; and Palm Beach County, with $46,372.00.

Question: Is it true that Indians don't need licenses to hunt or fish in Florida?

Answer: That's correct, as long as they're after something for their cookpots and not for commercial purposes. Furthermore, Indians may hunt and fish for food the year around within the reservation.

Question: Which species of fish have been 'blackballed" in Florida?

Answer: The following: fresh water eel, fresh water stingray, grass carp, common carp, walking catfish, peacock bass, piranha, tilapia, carnero catfish, dorado, tigerfishes, and bony tonguefishes. None of these may be transported into or possessed in the state without a permit from the Game and Fresh Water Fish Commission.

Question: Are goldfish still illegal for use as bait?

Answer: Yes. No goldfish or carp may be used for bait, nor may they be possessed lawfully by a person engaged in fishing in Florida's fresh waters.

Question: Is it ever lawful to eat native game in a restaurant?

Answer: Yes, game legally taken may be prepared and served at a restaurant or other public eating place to persons who have killed such game and are in possession of a valid hunting license, if a license is required. Game may not be bought and sold, or stored in an eating place, however.

Question: What is the law about pulling a water-skier? Must there be two people in the boat?

Answer: The law requires either a "person in addition to the operator, in a position to observe the progress of the person being towed" or a "wide-angle rear view mirror mounted in such a manner as to permit the operator of the vessel to observe the progress of the person being towed."

Question: A man loans his motorboat to another. It becomes involved in an accident in which a swimmer's leg is badly cut. It is apparent that negligent operation of the craft contributed to the accident. Who is liable, the owner or the borrower of the boat?

Answer: Maybe neither. Liability for negligent operation of a boat "shall be confined to the person in immediate charge or operating the boat and not the owner of the boat, unless he is the operator or present in the boat" when the injury occurs, under Section 371.52, Florida Statutes. So, in the theoretical situation above, a third party might have been at the controls, and he, therefore, would be held liable.

Question: Are sea cows fish, amphibians, or mammals?

Answer: They're mammals. They give live birth and suckle their young, which are covered with light fur. Manatees are harmless; fully protected by state and federal law. There are only three species in the world; one in the United States. All are rare and endangered. They are said to be on the increase on the west coast of Florida.

Question: How many lakes are there in Florida?

Answer: 7,712, including all fresh water ponds and lakes of an acre or more that are named on U.S. Geological Survey topographic maps, plus all unnamed lakes of at least 10 acres in size.

Question: Of the total, how many are in public ownership and how many are privately owned?

Answer: Only 210 Florida lakes were meandered in the original land surveys, so that's the total of those whose bottoms are owned by the state, i.e., the people. The balance were platted and sold to private individuals.

Question: Would the Game Commission give or sell a person a uniform shoulder patch for his collection?

Answer: Sorry, no. Established policy prohibits the distributing of Commission patches or other insignia to any persons other than those authorized to wear them.

Suwannee Bass

By **GRAY BASS**

SOME FISH ARE like some people. We see them around for years and years, but never get to know them. We may even know *where* they live, but next to nothing about *how* they live.

So it has been with a unique game fish, north Florida's own Suwannee bass, *Micropterus notius.* Until now it has been just a casual acquaintance to most fishermen, and a curiosity to a few. People outside the fishing fraternity or the academic community might never have known he existed at all.

In January 1972, the Game and Fresh Water Fish Commission undertook to investigate the life history of the Suwannee bass as part of a larger study of the sport fishery of the Suwannee and Santa Fe rivers, in northeast Florida.

Four aspects of the fish's ecology are of primary importance: distribution, food habits, reproduction, and value as a game fish.

Suwannee bass have been recorded upstream in the Suwannee itself as far as Suwannee River State Park, 120 miles above the Gulf of Mexico. Recently, it has been found to occur at least seasonally within a mile of the Gulf in the Suwannee estuary. The lower 30 miles of the Santa Fe River, a major tributary of the Suwannee, holds the majority of the Suwannee bass population.

First recognized as a species in 1949, this bass closely resembles its first cousin, the northern smallmouth bass, *Micropterus dolomieui.* In neither the Suwannee bass nor the smallmouth does the upper jaw extend behind the eye. Chunkier and smaller than its long-jawed second cousin, the familiar largemouth bass, the Suwannee bass is usually blue beneath, and most fish are marked with dark, diamond-shaped blotches along the sides. The spring-fed Ichetucknee River, a tributary of the Santa Fe, yielded the first few specimens ever collected for scientific examination. Subsequently, they have been discovered throughout most of the Suwannee River watershed, and have been identified from the Ochlockonee River. The Suwannee bass is an endemic species; it occurs nowhere else in the world.

A unique form of the black basses, it is considered rare. Only in the swift, rocky stretches of the lower Santa Fe River and Ichetucknee River is it common. A small form, the largest on record weighed 1.7 pounds and had a total length of 13.5 inches.

Two other "basses with small mouths" are native to Florida: the redeye bass, *Micropterus coosae,* and the spotted bass, *Micropterus punctulatus,* both of which occur in streams of the northwest Florida panhandle. (Past attempts to introduce the northern smallmouth into the state have been unsuccessful.)

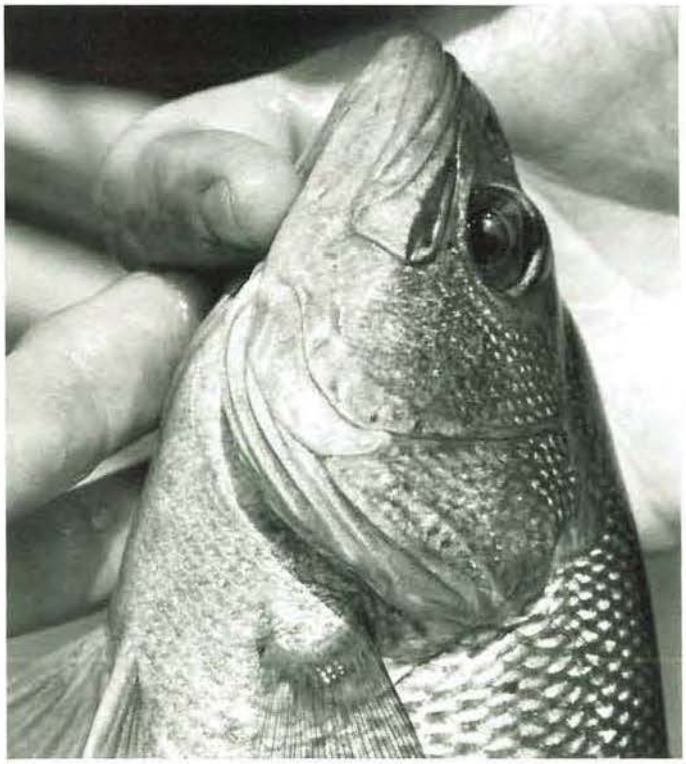


Photo By Laurence Rossignol

Note the short mouth of this Suwannee bass. In the largemouth, the jaw extends past the back edge of the eye. This species found only in Florida, and only in a few locations.

Wherever it has been taken, the compact Suwannee bass has been found to prey primarily upon crayfish and to a lesser extent upon other fishes, dragonfly nymphs, fresh water shrimp, and other small crustaceans. Crayfish are common in the Suwannee and very abundant in the Santa Fe and Ichetucknee rivers.

Spawning occurs from March into June, but gravid females have been observed as early as February. Approximately 3,700 ripe ova are produced by each mature female. Circular, saucer-shaped beds are fanned by Suwannee bass, in typical sunfish fashion. Females tend to be larger than males, as is the case with largemouth bass, too.

A creel census was initiated on the lower Santa Fe River as part of the study in June 1972. During the summer and fall, approximately 31% of basses taken by fishermen were Suwannee bass, most being caught during the autumn months.

A spunky rascal, the Suwannee bass is noted for its fighting qualities, being possibly more valiant than the largemouth. And because of its plumpness and sweet flavor, it is considered excellent table fare.

With regard to other fishes of our environmentally endangered world, the Suwannee bass is a rare form. It's time we got better acquainted with the species, for its continued survival and contribution to sport fishing in Florida will surely be bound to maintenance of high water quality and suitable habitat in the Suwannee watershed. ●

CONSERVATION SCENE

Blueprints for Action

THE NATIONAL Committee for 1973 Keep America Beautiful Day, scheduled for April 28, recently met to set its goals for this year's massive environmental effort. For the last two years, Keep America Beautiful Day has been co-sponsored by The Boy Scouts of America, the Girl Scouts of the U.S.A. and Keep America Beautiful, Incorporated. The nationwide program for local community environmental action includes improvements in streams and waterways, reforestation, litter collection, and recycling.

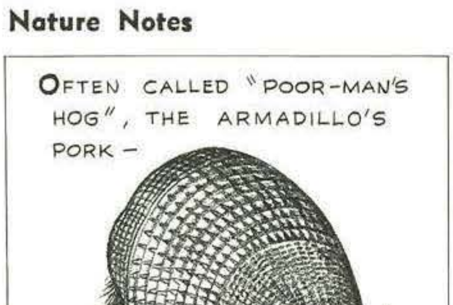
Ralph P. Davidson, publisher of TIME magazine and general chairman for the 1973 operation, summarized the 1972 achievements of 4 million participants in Keep America Beautiful Day, during which over 1,500,000 TONS of litter were collected, and more recycled. Davidson also called for expansion of Keep America Beautiful Day to more than double local efforts toward water-oriented clean-up projects, reforestation and the halting of soil erosion, and litter collection. He asked the active support and participation of business, industry, labor, and organizations for the following purposes: allocation of trucks, heavy equipment, and manpower to assist the young people who will play such an active role; donation of materials such as tree and plant seedlings, shovels, rakes, etc.; financial contributions, and donation of advertising support.

Other speakers on behalf of 1973 Keep America Beautiful Day were James Bowling, president of Keep America Beautiful, Inc., co-chairman of the committee and vice president of Philip Morris; Dr. Cecily Selby, national executive director of the Girl Scouts, representing Dr. Mary Ellen Oliverio, co-chairman of the project; and Alden Barber, chief scout executive of the Boy Scouts of America.

Mr. Bowling echoed Mr. Davidson's plans for expansion and expressed hope that by 1974 the program would grow "to include *all* the youth organizations on the Keep America Beautiful National Advisory Council, some *31 million* young people, as co-sponsors."

Dr. Selby added that 27 teams of Girl Scouts attended a University of Wisconsin workshop on community environmental action and received a grant to distribute their own pamphlet called "Blueprints for Action" on local environmental improvement projects.

Nature Notes


OFTEN CALLED "POOR-MAN'S HOG", THE ARMADILLO'S PORK –
FLAVORED FLESH IS CONSIDERED VERY GOOD TO EAT

Man on Wheels

"THESE BLADDER-WHEELED devices of the demon of darkness are contrivances to trap the feet of the unwary and skin the nose of the innocent. They are full of guile and deceit. When you think you have broken one to ride, and subdued its wild and satanic nature, behold it bucketh you off in the road and teareth a great hole in your pants."

This opinion of the bicycle, expressed in a Sunday sermon in Baltimore in 1896, did not reflect public consensus. This is shown, conclusively and oftentimes hilariously, in A SOCIAL HISTORY OF THE BICYCLE by Prof. Robert A. Smith (American Heritage Press, $9.95).

What began as an attempt to discover the sources of the bicycle craze of the Gay Nineties evolved into a lighthearted but scholarly study of the impact of the cycle on American culture, and the extensive heritage the "craze" left behind. A professor of Social Sciences at California State College, the author treats the origins of the two-wheeler, impact of the machine on the economy, morals, transportation, sport, highway improvement, dress reform, communications—the whole thing.

"The primary value of the book for the reader is twofold, I hope," says Prof. Smith. "First, it will bring pleasure, an occasional laugh, and maybe a better understanding of the lives of our grandfathers or great-grandfathers. Second, it may provide a better understanding of the reader's own times by showing how a machine influenced our contemporary life style."

Some 100 illustrations enhance the witty, stimulating text.

For that BIG ONE that didn't get away!

ELIGIBILITY REQUIREMENTS SPECIES

LARGEMOUTH BASS	8 pounds or larger
CHAIN PICKEREL	4 pounds or larger
BLUEGILL (BREAM)	1½ pounds or larger
SHELLCRACKER	2 pounds or larger
BLACK CRAPPIE	2 pounds or larger
RED BREAST	1 pound or larger

All fish must be taken from the fresh waters of the state of Florida, as defined by the Game and Fresh Water Fish Commission. Fish must be caught on conventional fishing tackle, with artificial or live bait, in the presence of at least one witness.

The catch must be weighed and recorded at a fishing camp or tackle store within the state by the owner, manager, or an authorized agent of the respective establishment.

FLORIDA WILDLIFE'S
FISHING CITATION

is available without charge, to any and all subscribers to Florida Wildlife Magazine, and their immediate families, who catch any of the fresh-water game fish of the prescribed species and size requirements. Citation, showing recorded date of the catch, will be mailed to the applicant upon receipt of the following application form that has been properly filled out and signed.

Only fishing citation applications received within 90 days from date of catch will be honored.

APPLICATION FOR FLORIDA WILDLIFE FISHING CITATION

The Editor, FLORIDA WILDLIFE Date__________
Game & Fresh Water Fish Commission, Tallahassee, Fla.

Please send me the Florida Wildlife Fishing Citation with the inscribed data listed below:

Name (please print)__________

Address __________

City__________ State__________ Zip No.__________

Species__________ Weight__________ Length__________

Type of Tackle__________

Bait or Lure Used__________

Where Caught__________ in__________ County

Date Caught__________ Catch Witnessed By__________

Registered, Weighed By__________ At__________

Signature of Applicant__________

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Great Blue Heron

Photo By Carson Baldwin, Jr.

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